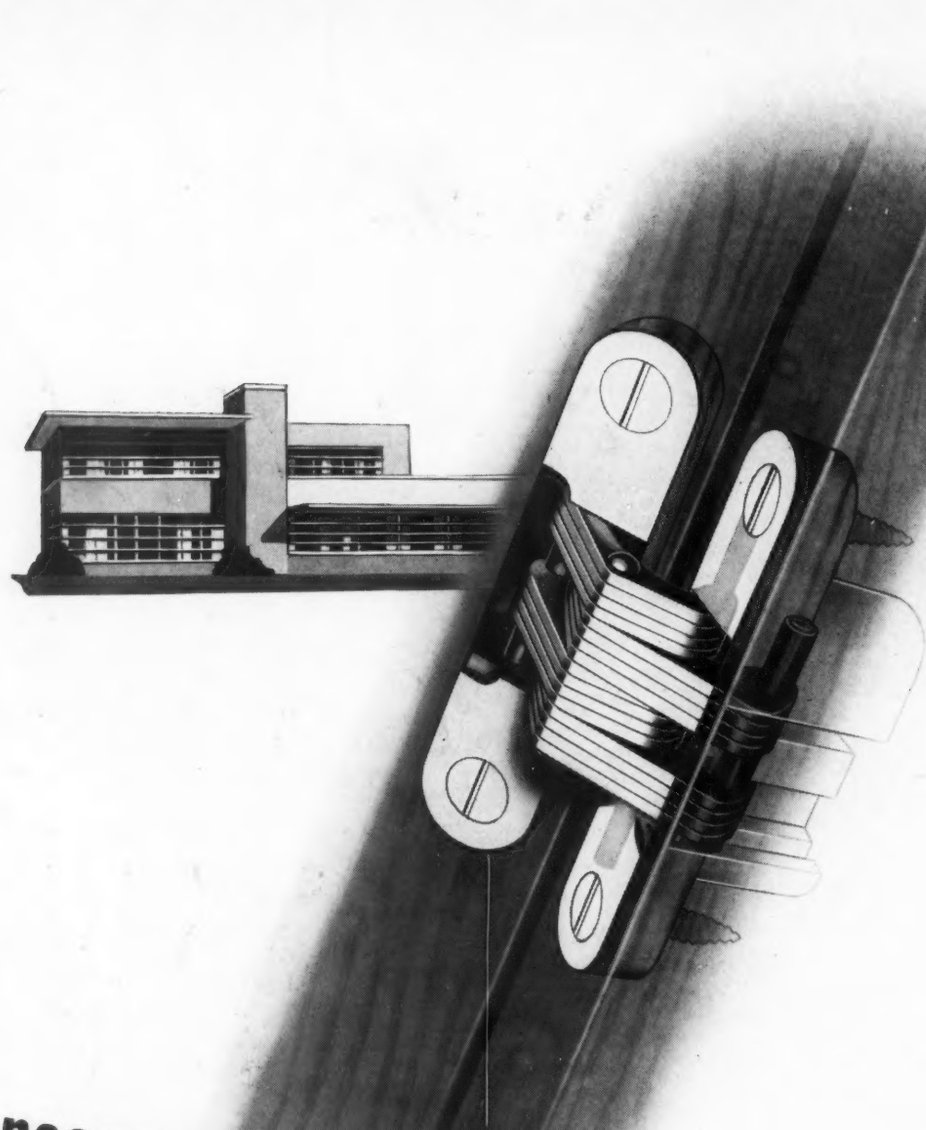
Pencil Points

THE MAGAZINE OF ARCHITECTURE

May, 1944



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the magazine of architecture

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May, 1944

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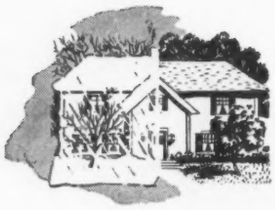

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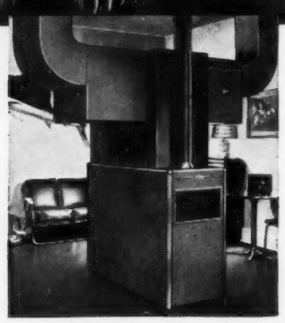

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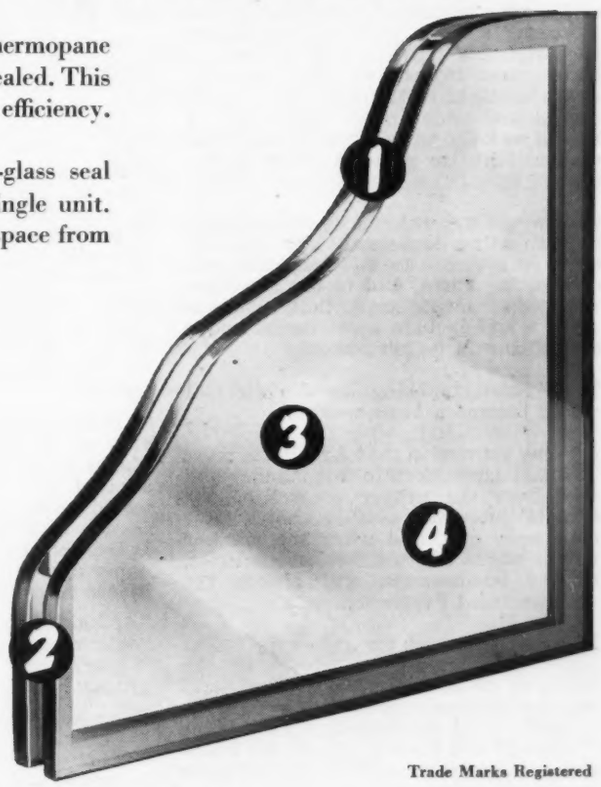

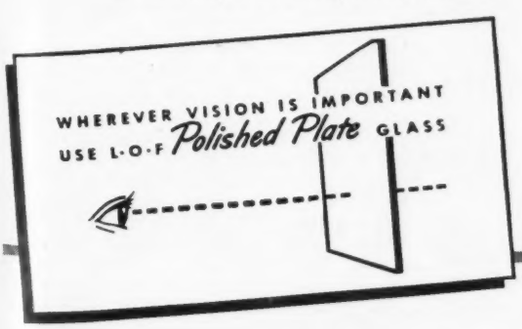

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Views

Opinions from readers

Remarks from the editors

Changes of address

IF I WERE AN ARCHITECT

The following article was submitted by EDMUND HOWE POGGI, *an architect of considerable experience in Pennsylvania and in Buenos Aires, Argentina. He returned to the U.S.A. in 1941, and is now an executive with a firm of naval architects, which employs about 1,000 men. Mr. Poggi has stated that he is entirely willing to explain or defend his position in these columns if the need arises.*

EDITORS

If I were a practicing Architect in the postwar world, I would retain my ethical standards, my reputation for honesty, my desire to obtain perfection in my work, and I would expand and increase my service to my Client by retaining *complete* control of the construction to be produced for him, from its inception until its completion.

In a word, I would produce my buildings *without* a so-called General Contractor, and for the benefit of the Owner or Client who might honor me by designating me his Architect and Agent to design his building and to protect him against any and all nefarious entities who might seek to make an unwarranted and undue profit therefrom; I should seek the authority and accept the responsibility to perform these obligations.

This would mean that I would maintain an estimating department and business office in addition to my designing and draughting force, and to my specification department; and that business office would include accountants and a statistician in its personnel.

In addition to being an Architect, I would become a *businessman.*

It is my conviction that Architects must become businessmen in this manner and take over the proper control of the Clients' interests, as they should have done ages ago, and after the manner now in vogue in some foreign countries, or the businessman will absorb the Architectural Profession.

It is my contention that when the Client places his building interests in the hands of an Architect, he expects—and has the right to expect—that orders for materials and sub-contracts will not be "juggled" and played with to his financial disadvantage and to the probable detriment to his building.

The system which I propose is not by any means new, but its inclusion in the functions of the Architect would be something of a departure from the customary procedure here.

It is merely the "Basis of Administration" as urged by General Contractors for themselves (to the exclusion of the Architect, if possible) and whether this basis is employed or that of the more commonplace competitive bidding, the result is an unfortunate triangle—i.e., General Contractor; Architect; Owner —with the Contractor riding in the driver's seat, the Architect a back-seat driver, and the Owner a very uncomfortable passenger.

With the responsibility and authority for the entire operation in the hands of the Architect, he must be prepared to assure his Client upon three counts:

(1) The maximum period necessary for the preparation of drawings.
(2) The date upon which the building will be entirely completed.
(3) The absolute outside or maximum figure of cost.

To fail to live up to the "dead lines" of Time and Cost are the *unforgivable sins* in this type of dealing.

If the Architect has the courage to do business upon this basis; if he knows his business, possesses the capacity, experience and judgment required; if he is a working dynamo, a thinker and a doer, he will be able to succeed, as well as be able to build better buildings at less cost.

If he does not possess these capabilities and prefers to go back to the antiquated pre-war functions of the Profession, he may as well reconcile himself to the prospect of eventual employment by a General Contractor and sad reminiscences of the "good old days."

ARE POLITICIANS PLANNERS?

Under the headline "Mayor Foils Power Grab by Plan Board," the *Detroit News* for Sunday, March 26th, carried a story that should excite the interest of city planners everywhere. It read, in part (with our italics): "Moving swiftly and with emphatic directness, Mayor Jeffries has broken up what he considers an attempted power grab to place the City Plan Commission in a position of authority above all other City departments, even including the Council.

"The attempt was in the form of a proposed ordinance which *would have given the commission vast new power to control the future physical development of Detroit.*

"Aroused to an unusual course by his view of the gravity of the matter, the Mayor descended on the commission and advised the members that the plan would not be permitted. After an hour's session in which he made it clear that Detroit has no room for any such 'superduper agency,' Jeffries ordered the ordinance rewritten in acceptable form.

"*At least three commission members immediately expressed agreement with the Mayor's view* and acknowledged that the proposal had been a mistake."

Commission secretary George F. Emery, however, pointed out that the proposed ordinance followed almost exactly the language of a State enabling act adopted in 1931 [sic] in accordance with the original proposal by a planning group in Washington [What! Under Hoover?] for uniform legislation on the subject.

The news item continued: "One of Mayor Jeffries' chief objections was to a clause which would have authorized the commission—rather than the Council —to adopt a master plan for municipal development. . . .

"Another clause which drew the Mayor's disapproval read: 'Whenever the commission shall have adopted the master plan of the municipality or of one or more sections or districts therof, no street, square, park or other public way, ground or open space, or public building or structure, shall be constructed or authorized in the municipality or in such planned section and district until the location, character, and extent thereof shall have been submitted to and approved by the commission; provided, that in case of disapproval the commission shall communicate its reasons to the Council, which shall have the power to overrule such disapproval by a recorded vote of not less than two-thirds of its entire membership.'"

It seems to us that the proposal as written puts the responsibility for the planning where it belongs, in the hands of the technicians, and that it also gives to the politicians of the Council a reasonable means of over-riding any questionable decisions of the commission. The principle involved is so important, however, that we invite reader comment.

EDITOR

POSTWAR PUBLIC WORKS IN MICHIGAN

Some time ago Alan Mather questioned, in the Michigan Society of Architects' Bulletin, *the status of postwar projects in Michigan, the labor problems involved, etc. A sizeable controversy was one result, and this seems to the Editors of* PENCIL POINTS *a healthy sign. Mr. Mather apparently trod upon some very sensitive corns; there have been indignant replies in the* Bulletin. *Mr. Mather has requested that we publish the following open letter to the* Bulletin's *editor. We shall be glad to open our columns to other points of view on the subject.*

Dear Editor, Michigan Bulletin:

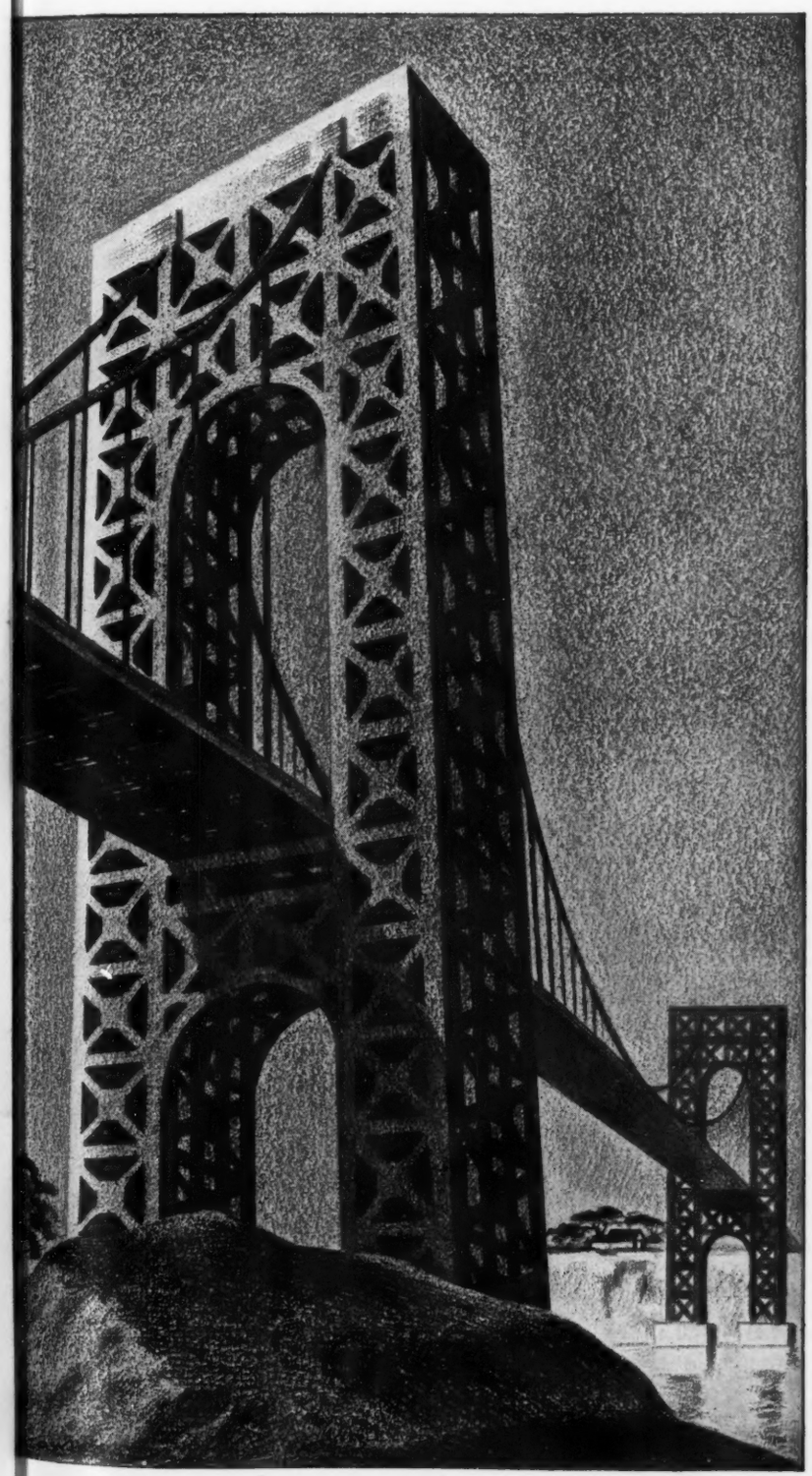
I shall be answering the arguments against unions when I get all the facts I want. Meanwhile, a lot of us are wondering about postwar public works.

Why does your *Bulletin* say so little about Michigan State's program of construction? Recent issues talk about a new State Office Building and Capitol . . . . but are architects interested only in buildings with lots of marble in them? I spent months measuring and drawing plans and reporting on the condition of ancient buildings at Pontiac State Hospital for psychopathic patients. Now, I'd like to know what's going to be done about those patients and those buildings. Your *Bulletin* says that architects *minister to the people.* Good, let's get started.

Mr. Roger Allen, the newly elected President of the Grand Rapids Chapter of the A.I.A., said, in the real estate pages of *The Detroit News,* that the State of Michigan has a fine program of postwar construction. In the *Bulletin* he tells us all what a fine fellow is Adrian Langius, the chairman of the State Planning Board. Sure, Langius is a nice guy, so what? And why doesn't he tell Roger Allen to stop buttering him up and why doesn't he ask you to spell his name right on the masthead of the *Bulletin?* Moreover, if Mr. Allen thinks that the State's program is so fine, why doesn't he give out with some

(Continued on page 10)

...FOR THE BRIDGES TO BE CROSSED TOMORROW



The day is fast approaching when America will need your plans for building new bridges and modernizing old ones. Once blueprints are made, you'll be ready to go ahead with these projects when the Victory whistles blow.

Planning firm foundations upon which people may begin new lives is your way to assure a quick return to normal living for millions of fighting men and war workers. These are the men who will turn to you for employment when their present job is done. Don't disappoint them . . . don't keep them waiting . . . plan your post-war developments now and give them the things they have been fighting for.

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Views

(Continued from page 8)

of the details which have drawn him, little by little, to that conclusion?

Now, about this ministering to the people through a Michigan State program of public works. Where is the money to come from? What is the State going to do with its collection from the sales tax . . . . go in the banking business? I hear that the Hospital Commission has now the power to employ architects directly. Is such employment subject to approval of the Administrative Board? May the State contribute financially to the construction of mental hygiene clinic buildings? If not, is it only for pious reasons that it can't? What sort of clinic buildings should the State have? Where, when? When are they going to fireproof the stairs in the North and South Infirmaries at Pontiac State Hospital? I am asking questions, Michigan architectural questions, at random. You see, I *am* horribly uninformed, as one of your contributors has pointed out. Of thee, Mr. Editor of the Bulletin of the Michigan Society of Architects, of thee is the story.

ALAN MATHER
Detroit Michigan

Curiouser and Curiouser

Tear-drop cars whizzing along elevated super-highways. Family helicopters landing lightly on apartment roofs. Daydreams of the world of tomorrow are becoming *curiouser and curiouser.*

Are we heading for a postwar paradise? Perhaps.

But, in the beginning at least, the advances of tomorrow will be reflected by yesterday's achievements and by today's accomplishments. And the solution to *immediate* postwar problems will be provided by a review of the past.

For example, consider Sedgwick elevators and dumb waiters. Before the war they moved men, materials and merchandise up and down. They'll do the same job when the war is won. But they'll do it better and faster.

Sedgwick lifting and hoisting equipment now serves as lowering lifts for tank barges, airplane elevators for carriers, ammunition hoists and special deck machinery. The results of today's experience will be incorporated into Sedgwick elevators and dumb waiters as rapidly as possible to help get peacetime production started — *fast.* And to improvements in design and construction will be added specially designed devices developed through research, planning and building.

That's why, if you're concerned with postwar plans for hospitals, hotels, schools, factories, airports, and the like — plan soundly, but plan now. And if you're confronted with seemingly insurmountable problems of proper vertical transportation, *let us know about them.*

Our engineers will be happy to help work out the solution and show you how Sedgwick specialized equipment provides safer, surer, more economical lifting and hoisting.

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Pitfalls of Geography

The following letter refers to an error made by Sir Ernest Simon, of the British Ministry of Works and Planning, in his report of a visit to the United States. Excerpts from the account were published in the Views pages of the March PENCIL POINTS. *In the process of correcting Sir Ernest, the writer of this letter has managed to make a mistake or two of his own. (See editor's comment, below).*

Dear Editor:

Mr. Wurster should know that Pendergast was a Missouri boy and was not particularly a Kansas problem. His Kansas City was in Missouri.

KEITH HINCHCLIFF
State College, Miss.

You should know that Ernest Simon had nothing to do with Wurster, which is now in Massachusetts but belongs in California. He no doubt meant Kansas City. These Englishmen are a bit vague on American geography. Incidentally, the particular paragraph you marked is a beautiful analysis of the situation in almost any American city. It takes a foreigner to get to the root of our troubles.

EDITOR

For Better Architectural Drawing

Dear Editor:

Go right on as you have begun in March PENCIL POINTS to hammer the sloppy drawing, careless presentation and frequent lack of relation between drawings that so commonly marks modern drawing. It is, of course, thoroughly bad in itself, it completely confuses the public, but worst of all it indicates careless, inaccurate thinking by the authors.

It is a crime that architectural drawings, which should be the clearest possible indication of facts in order that client and builder may know what is proposed, should gradually have acquired all the bad qualities of inaccuracy, misrepresentation and complete indifference to facts that has become customary in the graphic arts.

While it may have begun as laziness it now represents both ignorance and incapacity.

It is steadily undermining the ability to think clearly by the student, who sees practicing architects unable or unwilling to give an honest statement of facts.

There is almost a complete lack of standards inherent in this demoralising exhibition of futility.

WILLIAM EMERSON
Boston, Massachusetts

Reply from the Navy

Last December the editorial page of PENCIL POINTS *carried a standing invitation, to architectural men in the services, to express themselves upon the future of architecture. Herewith are some interesting responses.*

Dear Editor:

Your invitation for expression of our ideas and opinions on the future of Architecture and our expectations for it has proved a temptation I find difficult to pass by, as it provides the long awaited impetus to clarify some of my own thoughts on the subject by getting

(Continued on page 96)

The 1944 annual A.I.A. meeting, scheduled for early May, has been officially postponed.

It is felt that the holding of meetings not directly connected with the war effort not only places an unnecessary added strain on trains and buses but also puts a burden on hotels and many other civilian services. The annual meeting of the Board of Directors will be held as scheduled and a complete report made to all members concerning the Institute and its future policies.

Consolidated Vultee Aircraft Corp. is displaying its full-scale Model 39 "passenger plane of the future," a mock-up of a 48-passenger plane.

Company officials state it will provide maximum safety and operating efficiency, a speed of 240 miles per hour, a range of 2500 miles loaded with 48 passengers, baggage, 1200 lbs. of mail, and has a normal gross weight of 28 tons. Interior was designed by Henry Dreyfuss, consultant industrial designer. Plastic mirrors and folding seats, light-weight soap-treated paper instead of soap, thin wood veneers bonded to paper or aluminum, and Polaroid windows are features of the new design. The model will not be put into commercial production until the war ends.

High frequency induction heating has been successfully and economically applied to many processes.

Hardening steel brazing, soldering, drying of woods, setting of cement and plastics, drying of paints, dehydration of foods and many other applications are included, in practically every branch of industry—reducing the time of manufacturing processes.

Tomorrow's houses should be "tailored" primarily to suit personal living habits of the tenants.

That is the opinion of Jedd Reisner and Harwell Hamilton Harris, architects, who spoke at the architectural session of the 4th Annual Institute of the Decorators Club in New York. Mr. Reisner further opined that the architectural style of a house should be secondary to comfort, ease of living, and maintenance, that the inside plan is more important than the outside design, that furniture of the future should be built on engineering principles to give maximum comfort.

A successful series of 7 lecture-discussions on city planning, arranged by the University of Cincinnati in co-operation with the Citizens' Planning Association and the Cincinnati Chapter A.I.A., was completed April 25th.

The series was presented because the University's Division of Architecture believes city planning is a cooperative activity requiring the thinking of many people and the suport of many groups, and the results have taken tangible shape in the form of an appropriation from the city council to the Cincinnati City Planning Commission for the development of a new master plan.

The group attending the series was composed of architects, engineers, realtors, planners, business men, financiers, club women, housing officials, and others, whose attention was focused upon aspects of planning such as transportation, housing, population trends, recreation, finance, real estate, appearance, and actual planning process. E. Pickering, Head of the Division of Architecture, comments: "The series placed the local architectural profession squarely behind the planning movement, for the Cincinnati Chapter, A.I.A., cooperated as a unit."

The Urban Land Institute has been asked by 215 individuals in various communities for assistance on city planning and community development.

The Institute is asking these individuals to complete and return brief questionnaires which are issued to secure data on the progress of city planning activities in the 136 cities representative of 35 states, the District of Columbia, Canada, and Mexico. A compilation of this information will be featured in a forthcoming issue of *Building Cities.*

American Standards Association announces publication of the first of the American Standard Building Code Requirements for Masonry.

This is one of a related series of building standards being developed by their technical committees, and presenting recommended basic building code requirements, design, and workmanship.

It covers classification of materials (sand-lime, concrete brick, cast stone, etc.), allowable stresses, lateral support, types of walls, piers, partitions, erection, etc. The Association also announces publication of an American Standards Association Safety Code for Woodworking Machinery revision which sets minimum and improved standards for safeguarding the operator, and dealing with woodworking machinery wherever located rather than limiting itself to the woodworking plants. This publication may be ordered for 25 cents a copy, and the Code Requirements for Masonry for 50 cents a copy, from the American Standards Association, 29 W. 39th St., N. Y. City 18.

A revision further simplifying types, weights, and sizes of listed metal lath and including all metal plastering accessories (to be identified as Simplified Practice Recommendation R-3-44 Metal Lath (Expanded and Sheet) and Metal Plastering Accessories), is announced by the Division of Simplified Practice, National Bureau of Standards. It supersedes R-3-41 but the new recommendation will not become effective until restricted critical materials needed in the production of commodities covered under it become available.

News

Design and construction

Developments afield

Building Regulations

Related Professions

Products Progress

A statement by R. B. O'Connor, president of N. Y. Chapter, A.I.A., was recently printed in the N. Y. Times.

It constituted a reply to an editorial criticizing the bill providing for reorganization of the State Department of Public Works now before Governor Dewey. It read, in part: "In objecting to the provision which permits the employment of private architects, engineers, and consultants on public work, you seem to imply that all such work should be done by Civil Service employees . . . I am sure you will agree that the architectural excellence of the public buildings of the State is of sufficient importance to call for all the architectural talent available whether in Civil Service or in private practice. There is far more danger . . . in the restriction of creative design to Governmental bureaus than there is in the possibility of political patronage. . . ."

The Times defended its stand by saying the editorial did not oppose the employment of private architects, engineers, and consultants for specific public works projects but did oppose the hiring of individuals or firms outside of the civil service for regular administrative work.

A proposed plan to establish integrated control over lumber distribution was recently presented to 8 lumber industry advisory committees of the WPB.

Its general purpose is stated to be the balance of supply and demand. WPB reported preliminary 1944 estimates require 35,500,000,000 board feet production but will probably not exceed $31,000,000,000 board feet; that the gap between consumption and production cannot be filled by withdrawals from stocks which are already dangerously low. Chief provisions of the plan are presented:

All consumers of lumber (except those using less than 50,000 board feet per quarter) will file quarterly summaries of requirements.

Purchase orders will be subject to WPB authorization with some exceptions.

To meet special needs of different types of lumber consumers, varying procedures are established for each of the 10

News

(Continued from page 13)

larger consuming groups: boxing, crating, dunnage; manufactured wood products; civilian construction; building repair; railroads, mines, utilities, etc.; Army, Navy, and Maritime Commission; export; small industrial consumers; farmers, civilians, retail stores, etc.; distribution and retail yards.

Lumber of civilian consumption will be authorized when construction applications are approved under Order L-41.

Building repair lumber will be subject to present controls.

Farmers, civilians, and retail stores will purchase lumber without authorization, the aggregate consumption for this group being controlled by the amount allotted to distribution and retail yards on a quota basis.

Amendments of Orders M-361 and M-364 have been issued by the WPB, covering pecan, birch (except New England white), ash, hickory, hard maple, rock elm, and beech.

The orders also now cover concentration yards processing by drying 25% or more of the lumber received. Retail sales by sawmills in areas not served by retail yards may be made only through WPB authorization. These changes result in the control of an estimated 75% of total Southern yellow pine production and 70% of the restricted hardwoods.

Correction

Will We Build Without Wood, which appeared in last month's issue, contained a table on page 110 showing the greater economy in the use of wood which has characterized recent construction. The figures were misplaced, making the table completely unintelligible. The correct version follows:

Year	Total Construction $ Billions	Total Lumber for Construction F.B.M. Billions	F.B.M. Per $
1926	10.8	22.0	2.03
1933	2.4	5.0	2.08
1913	7.6	7.0	0.92

Frank L. Yates, assistant comptroller general, testified before the War Contracts Sub-Committee of the Senate Military Affairs Committee.

He said that S. J. Res. 80, to prohibit further use of the cost-plus-a-fixed-fee system of contracting "is a very meritorious bill," at the same time expressing doubt as to the wisdom of Sec. 3 of the measure which he said would force conversion of cost-plus contracts to fixed-price contracts in all cases.

FHA is urging builders of war housing to use concrete or masonry trench walls or interior bearing walls.

Purpose is to eliminate use of wood girders and steel beams and columns in place of wood beams and posts, and more general use of plastic materials wherever adequate, in order to conserve lumber.

OPA is enforcing Construction Price Control MPR 251 on contracts which come under their scrutiny.

Despite widespread belief that price control is unworkable at the level of construction contracts and unnecessary because of ample existing controls on materials, labor, and profits, a revision of Reg. MPR 251 is in work.

OWI announces that on publicly financed war housing projects, contractors will now furnish items of equipment heretofore handled through mass purchase by the FPHA.

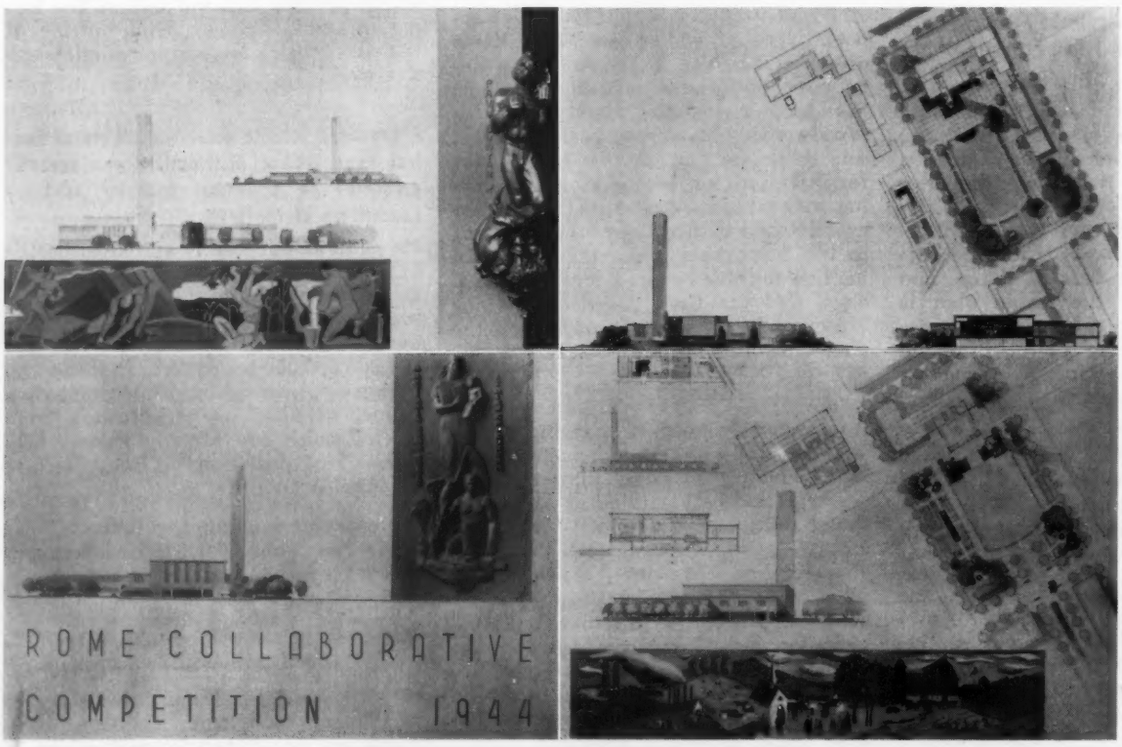
Such items as plumbing and heating equipment, and lighting fixtures, will be included again in construction contracts, and inclusion of ranges and iceboxes is at the option of the FPHA Regional Directors. All equipment is still limited to Victory models.

The intention to hold an architect's competition for an 8- or 10-story building to adjoin and to harmonize with Chicago's Tribune Tower is announced by the Chicago Tribune.

The building is to house a radio studio and two smaller theaters, plans to include development of television and frequency modulation broadcasting. Details will be published by May 20.

(Continued on page 104)

The American Academy in Rome again presents winners—this time of its 18th annual competition—of collaborative problem prizes. Only 7 solutions were received this year, against 33 last year, 55 the year before. This year's problem was a Municipal Center for the city of Appleton, Wisconsin; and seeing that the same city has been the guinea-pig for three years in a row now, Appleton ought to be getting pretty well fitted out with monumental structures. First prize: (bottom row) went to Irving Maitin, architect and landscape architect, Madeleine Robertson, painter, Eda Castle, sculptor. Second prize: (top row) Jorge Bonino, Marian Freeman Holland, Amelie Zell. Third prize: (not shown) Joan Nichols, Gertrude Schobinger, Paul Greenwood.



for more modern structures at lower cost

The Wichita Coca-Cola Bottling Company, Wichita Falls, Texas, uses this 3,000 lb. Rotary Oildraulic Elevator to handle freight between two floors. In addition, the car can be run several feet above floor level to effect direct loading into trucks. Note safety Skirt Guard—(above floor for picture only).

Streamlined Buildings Made Possible By Specifying Oildraulic Elevators

Rotary Oildraulic Elevators conserve materials and cost less because the penthouse and its necessary load-bearing supporting columns are completely eliminated. Loads are "pushed up"—not "pulled up." This simplification, plus deletion of counter-weights, their guides and other complicated mechanisms, facilitates project completion on schedule.

These rugged, simpler elevators carry heavy loads with safety and ease, operate with extreme smoothness, afford more accurate landing stops and have actually set a national trend in elevator design. Owners find, too, that maintenance costs with Rotary equipment are negligible.

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Reviews

Books

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Bibliographies

DOWN TO EARTH WITH THE HOUSE-BUILDING "INDUSTRY" IN AMERICA

American Housing: Problems and Prospects. The Factual Findings, by Miles L. Colean; The Program, by the Housing Committee. Published by The Twentieth Century Fund, 330 West 42nd Street, New York 18, N. Y. 1944. 450 pages, 6 in. by 8 in. Price, $3.00.

As indicated by the title, the book is in two parts. The first part is the most complete survey and analysis of the house building "industry" that has been made. In scope, clarity, and method it leaves nothing to be desired. Every thinking architect owes it to himself to read this book and ponder it, for it presents the bones and tissue of that portion of our industrial, financial, and social organization of which he is a part. The profession is worried, and rightly, about its future in terms of its past. Here is the material on which to base thinking about its future in terms of the future. The architect is neither godalmity nor a twirp; he is part of a mechanism—and a pretty obsolete mechanism, which is due for re-design according to the technologies of the time. He had better prepare for it, or he will find himself replaced by a synthetic part that will work more satisfactorily.

The second part of the book attempts to make a preliminary blueprint for the new machine. On the whole it presents a sound and well-reasoned case. Here for almost the first time is set forth the part that money and the law play in the sorry story of our inadequate house industry. The financial and legal mechanisms having to do with mortgage financing and land ownership and control are as antiquated and obfuscating as jurisdictional disputes, restrictions in restraint of trade, and industrial disorganization.

The conflicting roles and rivalry of various government agencies are also described, as well as their accomplishments. The part public and private enterprise housing must play is considered in the light of need and the state of the "industry," and aspects of the recent Urban Redevelopment laws are argued pro and con. Architects would do well to review both. Public housing is a serious matter that should not be flicked away because of political prejudice and economic toryism. The Institute should watch its step, for here is an issue that may wreck it if the bourbonism of the few prevails. As to urban redevelopment, the dissenting opinion of John A. Lapp is a warning that, in the light of the arrogance of the Metropolitan Life Insurance Company in the Stuyvesant Town affair, might well be heeded.

This reviewer—like any reviewer—has high-lighted certain things of interest to him. So in closing I want to say that this volume contains food for thought on virtually every phase of the housing problem.

HENRY S. CHURCHILL

Topographic Drawing

Elements of Topographic Drawing, by Roscoe C. Sloane, C.E., Professor of Highway Engineering, Ohio State University, and John M. Montz, B.S. in C.E., Associate Professor of Civil Engineering. Second Edition, 251 pages, drawings, diagrams, bibliography, index, McGraw-Hill Book Co., Inc., 1943. $3.00.

In the new edition of their text and reference book, Professors Sloane and Montz have revised standard symbols to conform to current map-making practice, which has been considerably altered through advances in war equipment and service, air transportation and railway equipment. Entirely new sections discuss the use of the polar planimeter and the elements of the common forms of map projection. Planned to be of use as both an instruction textbook and a reference book for the topographic draftsman, the volume includes, in addition to analysis of topographic drawing, conventional signs and mapping, chapters on drawing in colors, contours, and contour sketching, reproduction of drawings, map projections and suggestions for office practice. A final chapter offers some typical problems for the student to solve. To those unfamiliar with the methods and techniques of map making, the book is an inclusive guide. Site planners will find many details and suggestions for improving the presentation of their work.

Pictorial Drawing

Industrial Production Illustration, by Randolph Philip Hoelscher, M.S., C.E., Professor of General Engineering Drawing, University of Illinois; Clifford Harry Springer, M.S., C.E., Associate Professor of General Engineering Drawing, and Richard F. Pohle, Major, U. S. Army, Chief of Base Shop, Data Section, Rock Island Arsenal, 172 pages, 41 plates, illustrations, 1943. $3.50.

Designed for students, draftsmen, and illustrators, this ambitious text includes not only detailed analyses of perspective drawings, and shades and shadows (pictorial work of a kind that most architects know by heart), but it undertakes to present "the entire range of pictorial drawing." Lettering, orthographic, axonometric, and oblique projection and sketching, and engineering delineation are some of the subjects covered. Pictorial representation has received new impetus in the war industries and this review of techniques and methods brings the subject up to date, including theoretical analysis as well as precise instruction in means. The plates on lettering and machine drawing are happily reproduced in large size and are models of legibility. While many of the problems discussed are not of immediate use to the practicing architect, the graphic solutions in related fields may well suggest new ways to cope with old problems. For any who may be a little rusty in the mechanics of graphic rendering, the book is a comprehensive review and freshener.

Working Manual for Architect-Planners

Impact of the War on the Detroit Area —Working notebook for use by local groups studying recent economic developments and formulating plans for the postwar period. Issued by the Postwar Division, Employment and Occupational Outlook Branch, Bureau of Labor Statistics, U. S. Department of Labor. Maps, diagrams. 72 pages.

No. 10 in the Department's industrial area studies, this "notebook" was prepared primarily to provide local civic, labor and business groups with a solid base of statistical material for developing in advance a sound program for demobilization and sustained business activity. It does *not* attempt to suggest the program itself; this, it emphasizes, is a job for local residents.

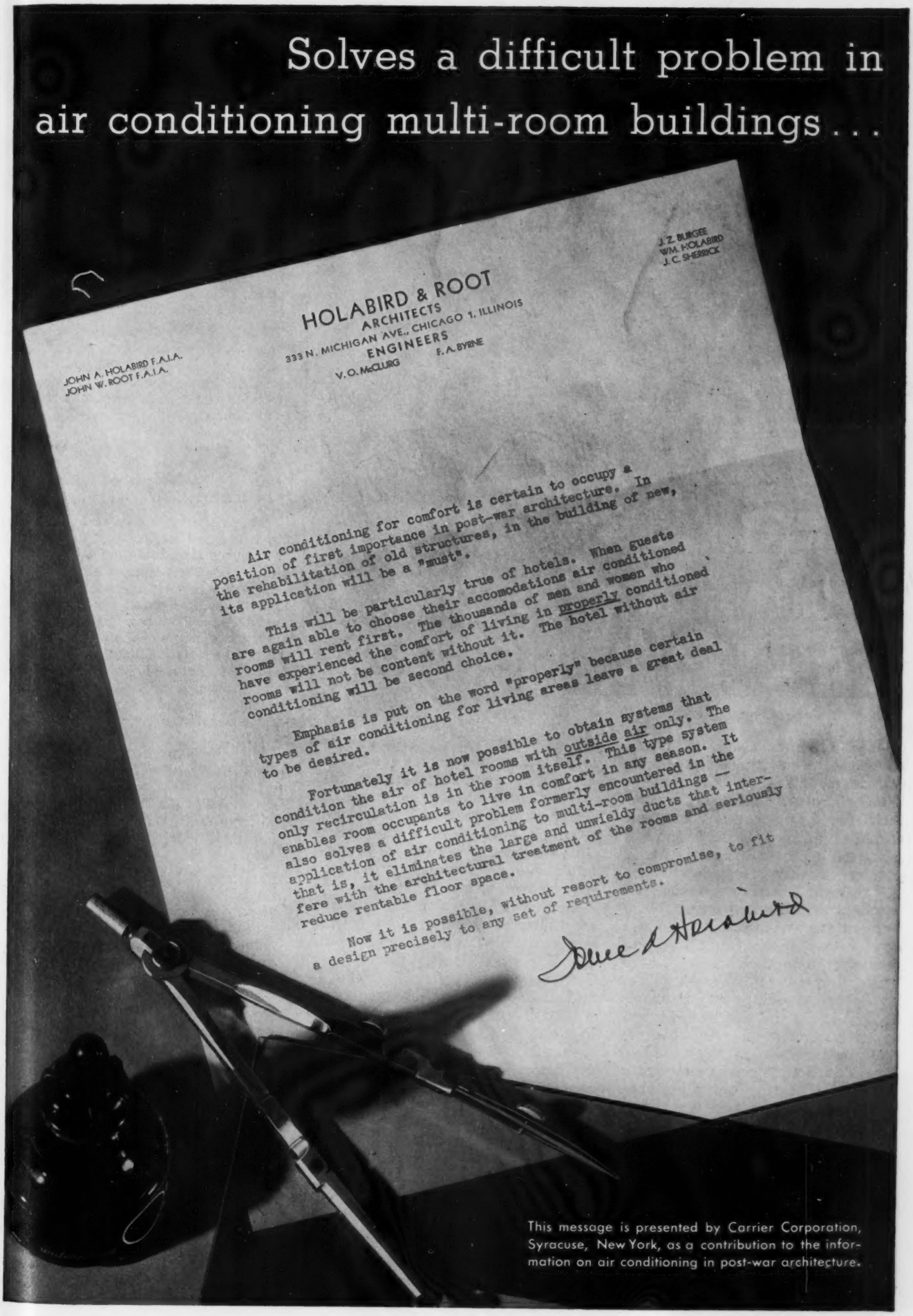
While the greater number of the statistics apply specifically to Detroit's industry and labor, these, in combination with population figures, and facts about local government, education, health, relief, housing, incomes and labor and business organizations, are of enormous value for planners of all degrees. In this case, of course, Detroiters are immediately concerned. But architects and others in any area that is taking a realistic look at its future will find this compilation an admirable check list of data that is required before any planning—a highway system, a housing project or the individual structure—can be intelligently approached.

Some ask "What has all *that* got to do with architecture?" In our opinion, it couldn't be more pertinent. For we hope and believe that architecture is at last dropping its swaddling clothes which enclosed it as a rather precious and apart object; that it must and will grow up to its braver obligations of sound planning of a human environment that will house and assist healthy human activity. Accepting this premise, all planning must start with human beings and their livelihood. The Detroit study, like its predecessors and those yet to appear (300 are planned in all), does exactly that.

GEORGE A. SANDERSON

(Continued on page 20)

Solves a difficult problem in air conditioning multi-room buildings . . .



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Air conditioning for comfort is certain to occupy a position of first importance in post-war architecture. In the rehabilitation of old structures, in the building of new, its application will be a "must".

This will be particularly true of hotels. When guests are again able to choose their accomodations air conditioned rooms will rent first. The thousands of men and women who have experienced the comfort of living in properly conditioned rooms will not be content without it. The hotel without air conditioning will be second choice.

Emphasis is put on the word "properly" because certain types of air conditioning for living areas leave a great deal to be desired.

Fortunately it is now possible to obtain systems that condition the air of hotel rooms with outside air only. The only recirculation is in the room itself. This type system enables room occupants to live in comfort in any season. It also solves a difficult problem formerly encountered in the application of air conditioning to multi-room buildings — that is, it eliminates the large and unwieldy ducts that interfere with the architectural treatment of the rooms and seriously reduce rentable floor space.

Now it is possible, without resort to compromise, to fit a design precisely to any set of requirements.

Duce & Holabird

This message is presented by Carrier Corporation, Syracuse, New York, as a contribution to the information on air conditioning in post-war architecture.

One Man Alone Can Install It!

Monowall Saves Labor and Time

JUST ONE MAN is all that's needed to erect walls and ceilings of Armstrong's De Luxe Monowall. This decorative, hard-surfaced material saves preparation costs, and there's no finishing to do. Monowall is so easy to install that the labor problem almost disappears.

The rigid boards are spread on the back with Armstrong's CM-50 Cement, pressed in position against any surface that's firm, dry, and reasonably smooth. That's all! Large board sizes cover room areas quickly. Special moldings and channels conceal joints and add to the smart appearance of a job. Any competent mechanic, following the simple instructions that come with every shipment, can turn out a job that will please your most critical client.

The speed with which Armstrong's Monowall is installed is just as popular with clients as it is with builders. Rooms are ready for use immediately, for there's nothing to dry or harden, no muss or litter to clean up. Small rooms can often be finished in a day. And clients especially appreciate Monowall's tough, glossy surface that's so easy to keep clean.

De Luxe Monowall is available in a number of popular plain colors and scored tile-designs, in sizes from 4′ x 4′ to 4′ x 12′—$\frac{5}{32}$″ thick. And there are several styles of moldings and channels from which to choose.

SEE SWEET'S (Sec. 13 "Flooring and Wall Materials", Catalogue 31) for more information, or write for complete data and samples. Armstrong Cork Company, Building Materials Division, 6905 Lincoln St., Lancaster, Pennsylvania.

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Made by the makers of TEMLOK INSULATION—Sheathing, Lath, De Luxe Interior Finish

Reviews

(Continued from page 18)

Planning Bibliography

Compiled by Margaret Greenough King

Precautionary Camouflage. Planning for Low Visibility without Reliance upon Artificial Coverings. United States Office of Civilian Defense, Washington, D. C., OCD Publication 2019. September 1943. Price 15¢.

This is an extraordinary publication, and though we may hate to face it, its aim is to provide for the possible dangers of the coming air age, as well as to offer camouflage principles for this war time.

Joint Statement by the Business, Labor and Agricultural Committees of the National Planning Association. NPA, *800 21st St., N.W., Washington, D. C.*

Perhaps the most important statement in this small leaflet is this, "All of us . . . agree that there must be adequate incentive to encourage risk and responsibility; otherwise, dollars saved will not be dollars dared for backing new possibilities for new jobs, opened by new ideas, nor will the new ideas themselves be forthcoming." If this statement of the need for incentive alone were taken as a basis for the postwar world, instead of a system based on too much social security, we might be better for it.

Highway Research Board. Roadside Development. Reports and Special Papers Presented at the Twenty-second Annual Meeting. Dec. 1942. Highway Research Board, Washington 25, D.C. Published 1943.

The material here covers aspects of roadside development, including: right of way and border control, design for utility and beauty, construction and maintenance, a report on planting and ground covers, and the question of public relations. A bibliography on "Flightstrips" is also included.

Building New Neighborhoods, Subdivision Design and Standards. The Chicago Plan Commission, 20 North Wacker Drive, Chicago, Ill. June 1943.

The Chicago Plan Commission has gathered data on vacant tax delinquent lands and on slum areas needing clearance, and suggests that a new law is needed to allow community development on lands acquired by the city. At present only public buildings are allowed on these lands under law. The Advisory Board of the Commission has made specific recommendations to this end. Block plans, street layouts, existing and proposed plans are discussed and shown in drawings and photographs.

Pencil Points
THE MAGAZINE OF ARCHITECTURE

Memorials? Yes—But No Monuments!

Blood! Sweat! Tears! These we were promised and these we will get—more and more from now on.

Invasion day is imminent as we write. For millions the moment is taut with anxiety. Yet the wholly natural fears for the safety of individuals are outweighed by general understanding that the job must be done and determination that victory and eventual peace must be the outcome.

This precise instant in history may seem, at first thought, no time to discuss war memorials. But is it not just now, when we are especially conscious of the greater meanings of impending sacrifices, that we can best consider appropriate ways of reminding future generations about the common men who died in the cause of human freedom? Can it be done by "monuments"? We think not.

We have been frequently told, of late, that the young men of our army and navy have no clear idea of what they are fighting for; that their chief motive in wanting to get the war over with is simply a desire to get back home to "Mom" and the girl friend, to movies and ball games, to the old familiar enjoyments of life in peaceful America.

Somehow we cannot accept this literally, even though many soldiers say it themselves. It seems to us more than possible that these expressed objectives are but symbols of nobler yearnings which are not easily put into words by the average American, but which are, nevertheless, deeply embedded in his being.

These men of our army and navy are not a race apart from the rest of us. They come from American homes and have gone to American schools. No matter how callous they may have subsequently been made by rubbing against the realities of experience, there must be, deep in the subconscious of every one of them, a basic belief in the ideals upon which this country was founded.

Though they be inarticulate, they know in their hearts that it is human liberty that has been attacked and beaten down in Axis-occupied areas and that has been and still is threatened over here. They know that they are fighting for this principle of liberty and all that it stands for in the future lives of themselves, their families, their friends, and their fellow human beings everywhere. They even know, we suspect, that the battle will go on long after the shooting ceases and the veterans have returned to their homes to fight with other weapons than guns for that same human emancipation. Can the spirit that makes them fight be suitably memorialized by otherwise purposeless piles of stone or images of metal?

No! If Life, Liberty, and the Pursuit of Happiness be the ideals at stake in this war, let our appreciation of the fact be evident in the things we create to celebrate its winning. Let there be memorial parks and playgrounds and schools and community buildings. Let gardens and groves and forests be planted for the delight and benefit of the people. Let memorial scholarships be founded to give opportunity to the worthy to pursue studies directed in the interests of the general welfare. Let even Memorial Plans be made for neighborhoods, for communities, and for whole cities—to affect beneficently the lives of all who may live therein. Let whatever we do have a truly social purpose and a practical social result.

But let us not again clutter up our villages and towns and cities with the sort of mediocre or even tawdry "monumental" monstrosities that have been left in the wake of all our earlier wars. The Nazis would, if they prevailed, build plenty of monuments. Their thinking runs in such vainglorious channels. Since we, however, are going to win, let us build instead a better world.

Kenneth Reid

2 Small Houses In Berkeley, Calif.—

Mr. Charles W. Mier at 73 had Architect F. J. McCarthy design this modern home for himself and his wife. When FHA found reasons for disallowing loan insurance on the two small McCarthy-designed houses presented herewith, this same gentleman stepped forward to finance the projects.

F. J. McCarthy, Architect

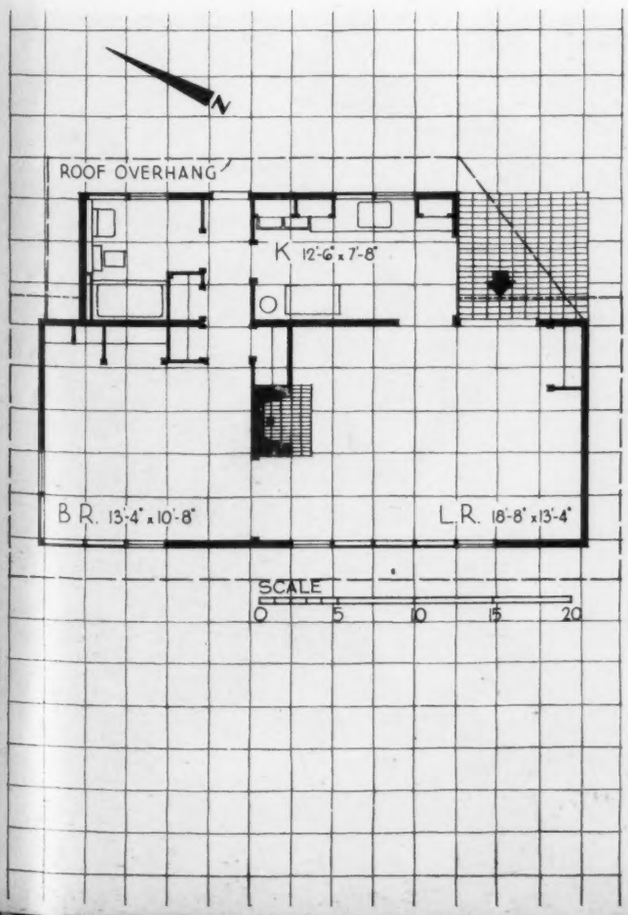
Photos and Text by Roger Sturtevant

WITH COMPLETE COLLABORATION OF CLIENTS, ARCHITECT, AND FINANCIER

There is more in commoh between these two houses than the fact that they were both designed by the same architect. That they had an architect at all was accidental.

Both houses were originally conceived by owners up to the point of floor plans and FHA loan application. Both houses have owners with unusual faculties of self-evaluation, financially and personally. Both houses were finally financed by an individual who dares to recognize that individuality can be a sound investment. And finally (and this is nearly universally true in the San Francisco area and could be the secret of why so many good small houses are found there), both owners ended up calling their architect by his first name.

I. HOUSE FOR MRS. GRACE STEARNS DILLEY AND MISS MARGUERITE GAVETTE DILLEY



Mrs. Dilley acquired her property three years before building. The lot is on the thousand-foot level of the Berkeley hills among eucalyptus groves. This site was chosen not only because it was within price range but because the altitude and eucalyptus were beneficial to the chronic sinusitus suffered by Mrs. Dilley and her daughter. Also, the site was fairly near the campus of the University of California where Miss Dilley would soon be a student.

For three years the Dilleys spent many a Sunday picnicking on their lot, studying sun and wind and making word pictures of their house. It was to be a one-room rustic cabin with a fireplace and a lean-to kitchen and bath. The main room had to have exposed rafters of a gabled roof. It was to be oriented to the sun. It was to be rough enough to accommodate cheerfully cats and dogs that are always a part of the Dilley menage. It was to be simple in materials to reflect the simplicity of the family's life and possessions, and simple to maintain so that Mrs. Dilley could work at a full day job and be housekeeper as well, and so that her daughter could devote long hours to study. The house was to be an unaffected, open background for hospitality.

Financially, the picture was even clearer. Investment in the house was not to exceed an amount which could be covered by monthly payments from a small private income received by Mrs. Dilley and still (with the depression in her mind) leave her enough of that income to live a minimum existence in the house, come anything but revolution. Payments were to be small enough to be covered by rental under nearly any general economic conditions so that the Dilleys would not feel tied to a house. The maximum price set was $2,000.

FHA informed Mrs. Dilley that a licensed architect must draw a set of plans for submission before they could pass on a loan. A mutual friend recommended F. J. McCarthy. A plus mark on the score of FHA is in order at this point.

Mrs. Dilley's outline of her requirements to McCarthy was punctuated by a blunt admonition: whatever he did, the house was *not* to be modern. To conform with FHA, it was agreed that a definite bedroom area should modify the original one-room conception. The general form of the house as built is exactly that of the first sketch submitted by McCarthy—obviously a violation of Mrs. Dilley's admonition. The Dilleys quickly saw that a shed roof pitched to the grade "sat" the house on the topography, that the clear-stories thus afforded would give them more light as well as a living background fresco of tree tops, and that they could still have exposed rafters in the living room. General floor arrangement and orientation are close to the owner's original conception.

Rapport of client and architect was rudely jolted by FHA which earned itself a large minus mark by flatly refusing to insure a loan. The grounds were that the house was too small for the neighborhood. This refusal was despite the fact that the property is in a restricted district and the district committee had already approved the proposed structure. The refusal is still more inexplicable when it is realized that the property is within that area of Berkeley where small, inexpensive, easily maintained houses have for years been at a premium for teaching or student couples of the University.

The financial impasse was broken by a most extraordinary gentleman—would for the sake of architecture and the humanities there were many more just like him—one Charles W. Mier. Mr. Mier, at 73 years of age, and Mrs. Mier (who was 68) decided they had lived long enough in the usual abode and it was time they had something they really liked. They commissioned McCarthy to design a house for them and joyously accepted

The bedroom is heated by an open-grate stove. Built-in plywood beds and corner storage box are architect-designed.

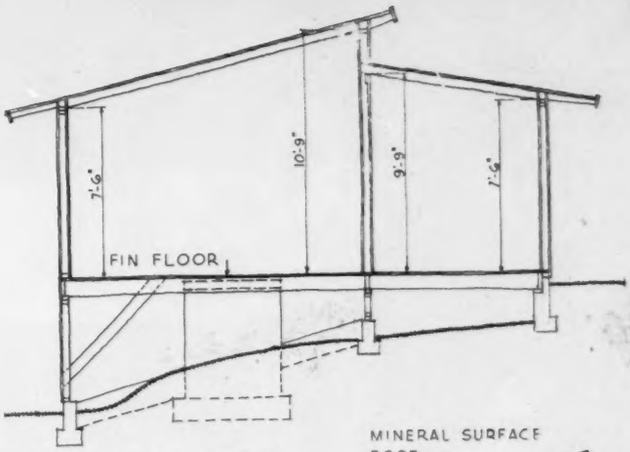
Door to bedroom opens wide to form a single daytime living area.

a blank wall facing a street backed up by eight hundred and fifty square feet of glass, much of it sliding glass panel walls that open the rooms to a magnificent panorama of San Francisco Bay.

To such an adventurous spirit, the conception of the Dilley house would seem commonplace and a safe investment. The thought Mrs. Dilley had given to her financial ability plus Mr. Mier's own faith in McCarthy's work quickly made him decide to finance the project.

As usual, bids were high. Had the fireplace been abandoned, the cost could have been reduced to the specified $2,000. Mrs. Dilley said she would rather live on dirt floors than be without a fireplace. Specifications were gone over with a fine-tooth comb. The major saving derived from abandonment of a sub-floor. The present floor will eventually serve as a sub-floor to hardwood. Twenty-five-cent items in specifications were reduced to ten-cent items. For example, hardware on doors was discarded, and stock wood knobs and snuggers were used. Even so, the final cost was $2,640. Mrs. Dilley was willing to invest this extra amount. Fortunately, lumber was purchased just before the first major rise in price caused by the Defense Housing program, else the house would never have been built.

Construction began in October 1940 and the house was occupied in January 1941. Speaking for herself and her daughter, who feels exactly as she does, Mrs. Dilley states that their three years of occupancy have proven the house is just right for them. She puts it this way: "Margie and I just love beautiful things and beautiful houses. Yet when we come home from a visit in a beautiful house with beautiful things, we look around and say to each other, 'This is just what we are and what we need.'" If Mrs. Dilley (and Mr. Mier as well) needed any further proof that flying in the face of FHA was a wise investment, many unsolicited offers to buy or rent constitute final evidence.



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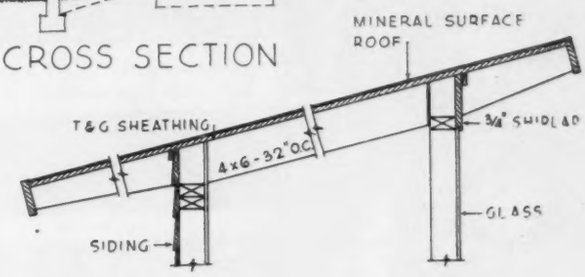
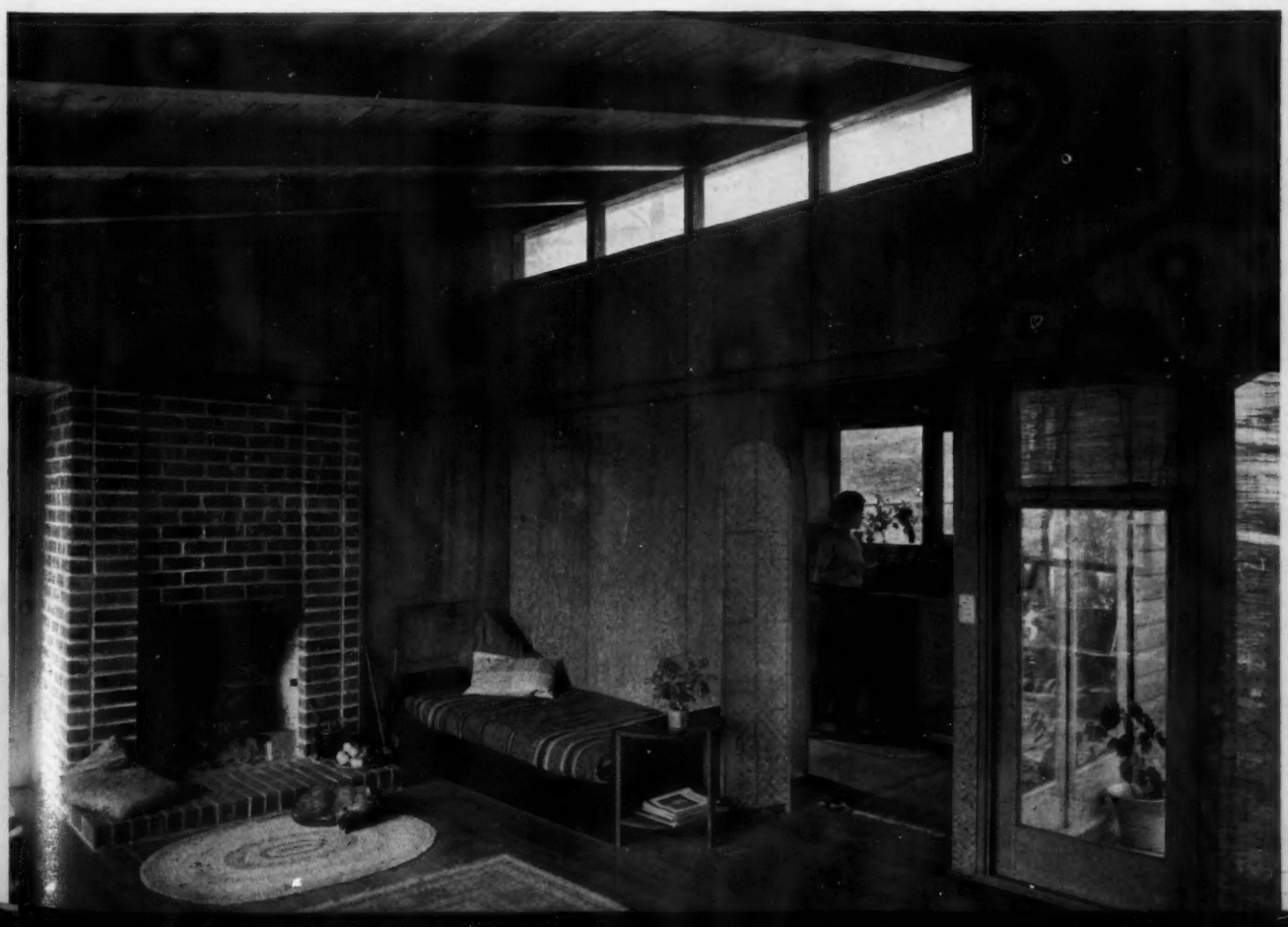


DETAIL OF ROOF

F. J. McCarthy, Architect

The photographer points out that the object on the hearth rug is two cats.

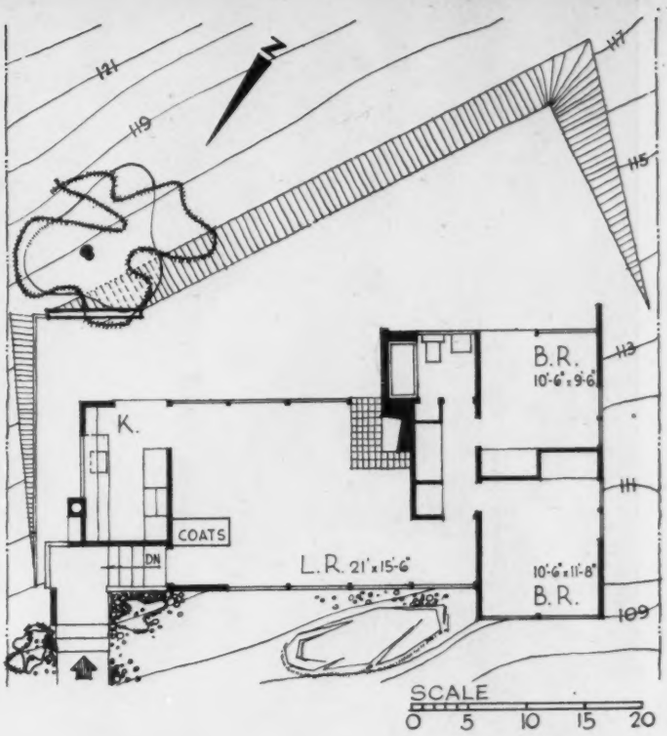


2 Houses in Berkeley, Calif.

2. HOUSE FOR MR. & MRS. G. A. McCORMACK

The McCormacks are a young couple definitely planning a future. Much of their planned future is to be lived on a boat. There was some debate whether immediate purchase of a boat or building this house would be the wiser course. With one small child and another on the way, they finally decided on the house.

Mrs. McCormack is by nature preoccupied with houses and plans. When property was acquired, she immediately set out to meet all her requirements and those of Mr. McCormack. For herself, she wanted a house that would be easy to maintain, one that would be in key with their meager possessions, and that would include a wide sweep of windows so that she could oversee the children at play while she did her work. The children's room was to be a combination bedroom and playroom opening to the back garden, and was to be so situated that when the children became older they would have access through their room to the bathroom, rather than through the main part of the house. For Mr. McCormack, who is an artist by avocation, there should be plenty of north



At left: street front; a garage will be built later at the sidewalk level, on a line with the bedroom bay.

Below: The architect suggested windows to the floor on the garden wall of the living room. The owners considered their two small boys and made a practical compromise.

light in the living room, and a corner where he could have his easel, and space for a desk on which to draw.

Like Mrs. Dilley, the McCormacks had to give very careful thought to ways and means of financing. They were young enough, yet old enough, to remember what the depression had done. They decided to base what they could pay on the present family income.

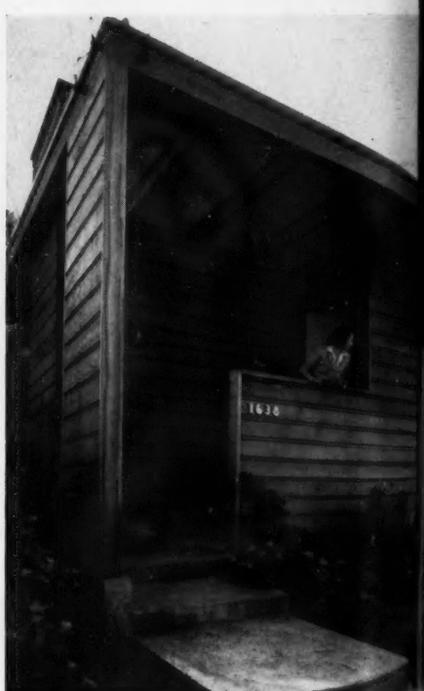
Mrs. McCormack's carefully drawn floor plans, including all the requirements that she had made for herself, were reinterpreted by the staff architect of a building-materials firm, submitted to FHA, and turned down. No explanation was given, but the assumption was that the house was too modern for the conventional neighborhood in which it was to be built. This will have to be a question mark on FHA's score card.

The case looked hopeless until an "architect wise" friend suggested the McCarthy-Mier combination. Mr. Mier again approved and made available the needed funds.

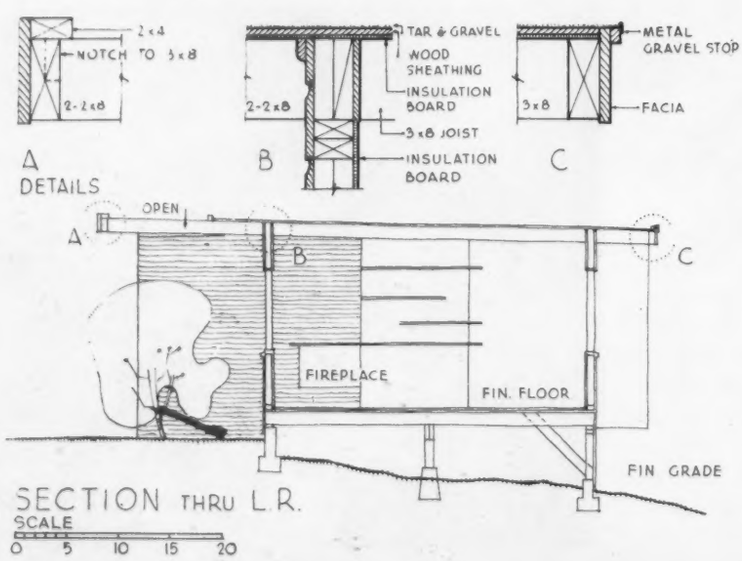
Mrs. McCormack indicates the space for a built-in desk that will greet Lt. McCormack when he returns from the war.

Again bids were high, which was not surprising considering the time. The house was wired just one day before priorities went into effect. The whole job could have been done for $4,000 had the McCormacks been willing to abandon some of the niceties, such as the brick veneer extending the fireplace wall into the garden. The house was built with practically no changes in specifications.

Mrs. McCormack sums up her attitude towards the house, now that she has been in it long enough for retrospection, with appreciation and cool dispassion. The form and texture of the house satisfy both Mr. and Mrs. McCormack completely. The plan functions just as smoothly as they hoped it would, which is a godsend, for, as in the case of so many young couples, soon after their occupancy of the house Mr. McCormack became Lt. (s.g.) G. A. McCormack and was off to the seven seas. Mrs. McCormack, sharply self-critical and admitting to criteria so high that she is never entirely satis-



The front door



F. J. McCarthy, Architect

Garden front of the house

Mrs. McCormack laid the brick paving and built the barricade to the children's room herself.

The kitchen door

The bedroom has green walls and a white ceiling; draperies and lampshades are a red plaid material.

fied, blames herself rather than McCarthy for certain shortcomings. For one thing, the house does not lend itself easily to expansion. She already sees the future need of a large workroom to house the hobbies and crafts of the two boys, herself, and her husband. Also, an extra bedroom and bath will probably be needed eventually. These and other lesser items she philosophically regards as things to be learned by experience.

The fact that these two houses—sound, sincere expressions that they are—could not be financed by Government guaranteed loans, can be taken as an indictment against FHA. However, the story behind them is, perhaps, a greater indictment against the architectural profession in general. Why should people so generally well informed, with such an honest approach, ever think of building without first consulting an architect?

Both owners freely acknowledge that the skill and cooperation of an architect—in particular, *their* architect—gave them a better house.

VIEW OF LAKE

BED RM. GARDEN

L.R. 18' x 39'

B.R. 11'x12'

N'RSRY. 10'x8'

DN

K. 16'-6" x 10'

DN

B.R. 12'x14'

GAR. ROOF

LAUNDRY YARD

CHILDREN'S PLAY YARD

SCALE

0 5 10 15

Photos by R. W. St. Clair

A New England House

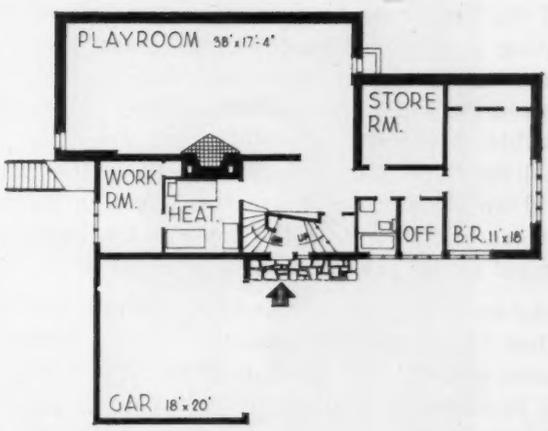
LOCATION: WINCHESTER, MASS.

Architect: Carol Fulkerson

In its quiet simplicity, its freedom from stylistic mannerisms, its graceful and honest accommodation of the life that goes on within and around it, and its success in fitting naturally with an unusual and in some respects difficult site, this house reflects the real New England tradition. As such, it is encouraging, for it suggests that the spirit which made New England great is still very much alive, even though many have tried to embalm it in the undeniably charming but outworn cerements of the past.

This unusual house, built on an extraordinary site, was, as the architect tells us, "built on the run"—just at the time when all private, non-war construction was coming to a halt.

Dr. and Mrs. Samuel Kirkwood, the owners, stated their needs in a remarkably sensible way: they wanted a "modern" house but specifically ruled out anything that could be termed the "international style." Thus, from the outset, they and their architect were free of the limitations which the "stylish" approach—whether "Romanesque" or "International"—inevitably presents. And it isn't surprising that from this intelligent point of view a house was developed



GROUND FLOOR

Carol Fulkerson, Architect

The music end of the living room is placed at the ridge of the steep site.

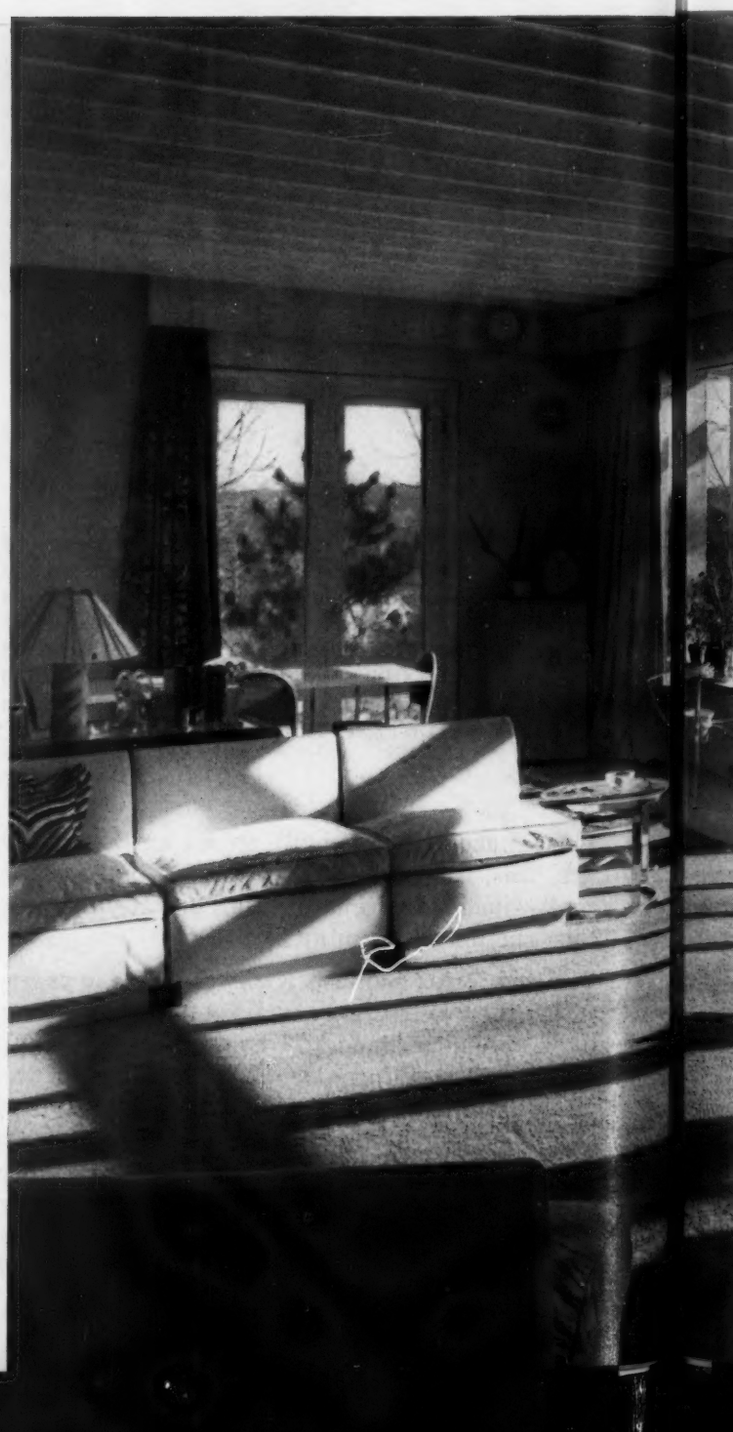
The 18-by-39 living room. Details of the window wall are shown on Page 48.

that not only meets the owners' needs admirably, but is uncluttered with mannerisms or finicky details that have no place in their lives—"New England" architecture in the best sense and tradition.

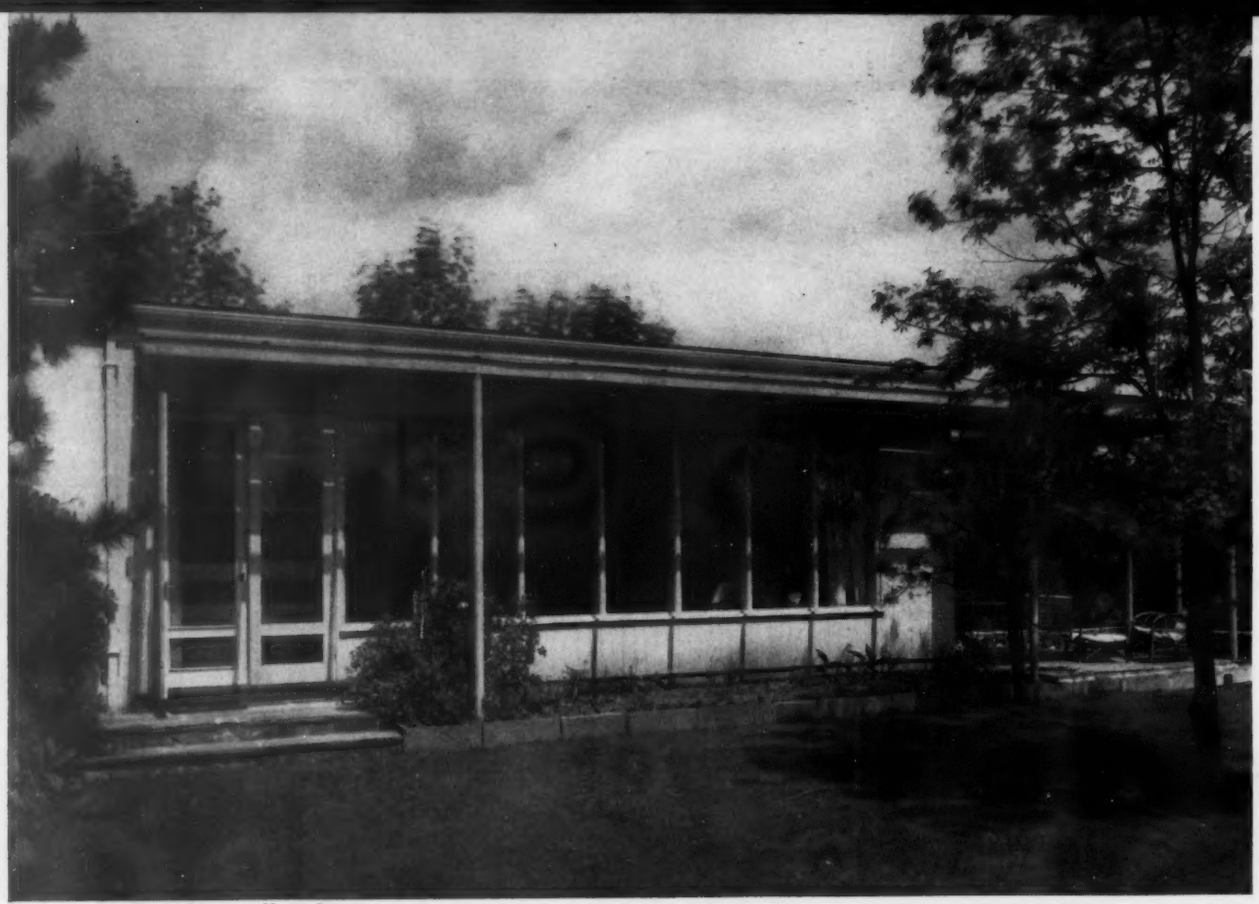
To meet budget requirements, the Kirkwoods were willing to sacrifice much to obtain a huge living area to be used by all the family and their many friends as an informal gathering place, a room for serious enjoyment of music, and a space large enough to accommodate dancing. In the design, this major requirement was integrated with the most dramatic point of the steep site to produce a large, unaffected room with a wall of great windows facing the 30-foot cliff with its view of the lake below.

The flattest land was a 30 percent grade, with the cliff to the south and the property generally sloping to the northeast. Unnecessary leveling was avoided; small pines and deciduous trees covered the hill, and these were preserved where possible. Mr. Fulkerson placed the music end of the living room at the ridge, letting the land build up against the house for 3 feet in height and grading it around the sides of the house in natural slopes rather than in level terraces.

Many economies were gained by use of standard rather than specially designed units. For instance, use of small sizes of plate glass between fins in the view wall of the living area proved far less costly than an all-glass wall. Room widths were determined by stock lengths of framing lumber. Further reducing installation and construction-time costs, the architect specified 2 by 8 rafters, placed on 32-inch centers, which keyed in automatically with the 8-inch steam-cured concrete blocks of the wall.



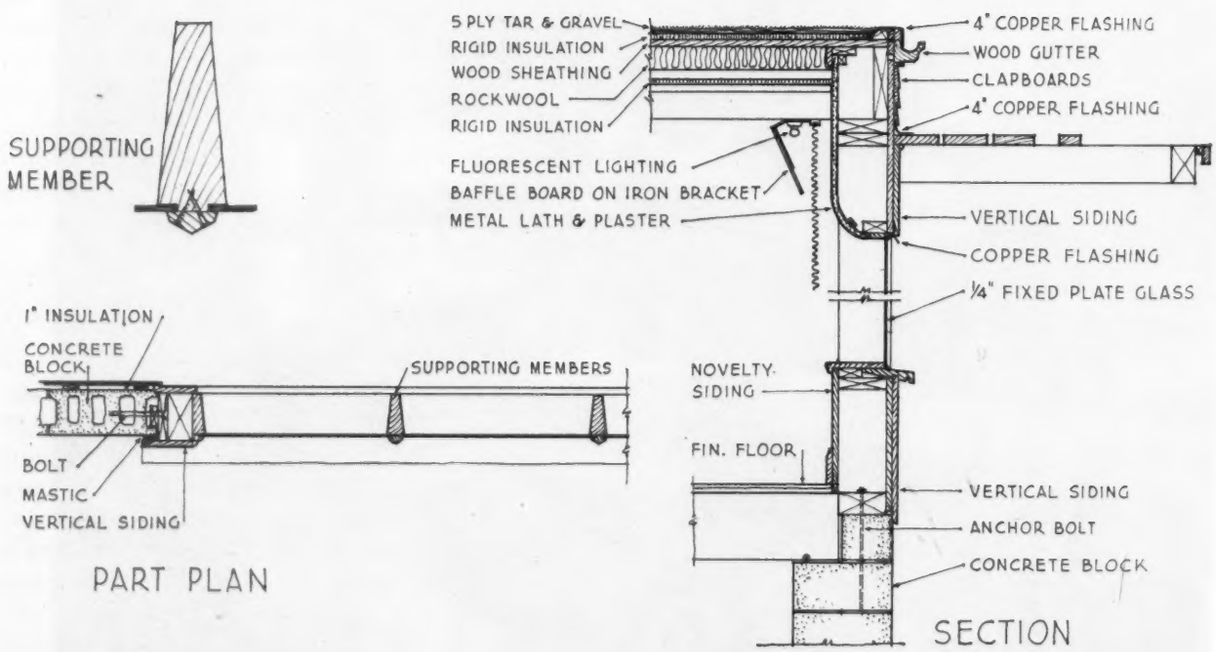
A curtain mounted at the ceiling separates the living and dining areas.



Living room window wall and terrace

The window wall of the living area: splayed-fin dividing strips between the glass areas provide support for the glazing and a minimum obstruction to the view. Concealed lighting installed behind a baffle produces artificial night illumination in the same area where the maximum natural daylight occurs.

Carol Fulkerson, Architect



The architect reports that his professional practice benefits materially by the combination of his workshop with his home in a suburban community. Clients who come here feel more at ease than they do in a city office, better able to detail their personal requirements. Important advantages result: better satisfied clients; better architectural service; better architecture.

Architect's Home and Studio

LOCATION: KENILWORTH, ILL.

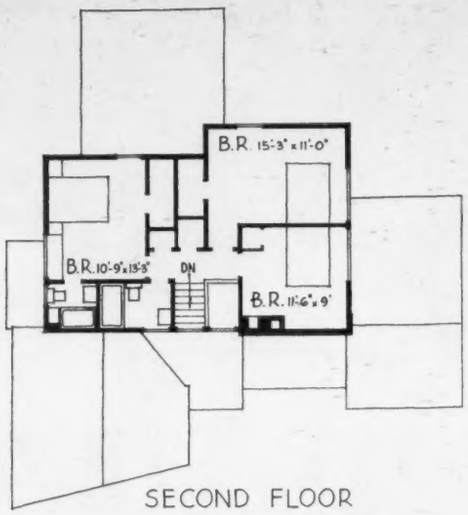
Architect: L. Morgan Yost, A.I.A.

Another advantage Mr. Yost finds in his home-office combination is the distinct sense it gives him of an existence that is nicely balanced between his work and family life—minus commuting routine, minus enervating night work in a distant office.

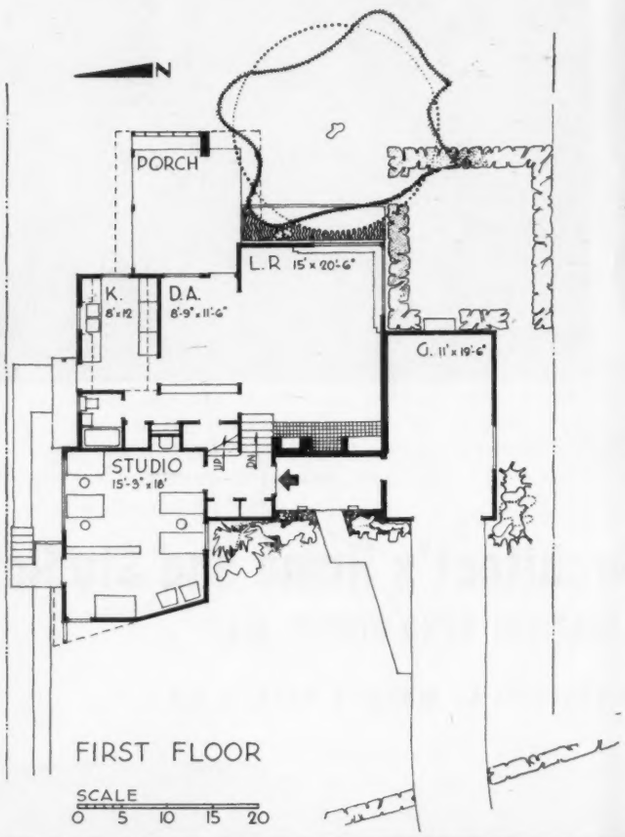
Choice of the particular site had much to do with the success of the venture. A slope made it possible to locate the studio at an in-between level, integrated with the rest of the house, but sufficiently apart so that either phase of the balanced existence can go forward without interruption of the other. The studio may be entered directly from the outside; or the main house entrance, also at the half-flight level, may be used.

Professional reasons as well as convenience dictated selection of a site bordering a busy street. Location of main living quarters at the rear of the house shields them effectively from traffic noises; the first floor is further sound-insulated by placement at the lower level, plus a barrier formed by

L. Morgan Yost, A.I.A. Architect



SECOND FLOOR



FIRST FLOOR

SCALE
0 5 10 15 20

Clients may enter the architect's studio either directly from the outside or through the main entrance hall of the house.

Room-height windows overlooking the lawn and garden form a corner of the living room.

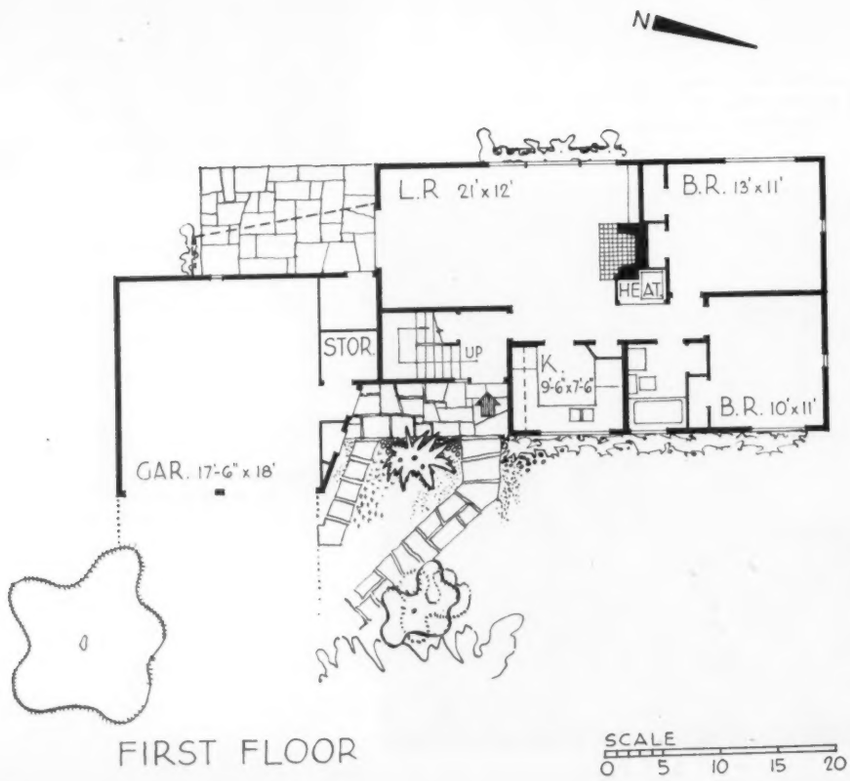
The three-level organization of the house is apparent in this rear view. Planting will soften the severity of the garage foundation wall.

fireplace wall, closets, entrance hall, and garage. Only the studio, stair hall, and second-floor bath have windows facing the street.

Beneath the studio, there are a laundry and a maid's room, reached by a few steps down from the main living floor. The lawn and garden at the rear of the house are developed around old apple trees. The architect has provided a broad corner window in the living room and a large living-dining porch overlooking the garden area. Of frame construction, the house is painted red with white trim. Out-opening sash, capped by a roof overhang, permits open windows in any weather.

The fireplace wall of the living room; a half flight of stairs leads up to the entrance hall and architect's studio.

Photos by Rodney McCay Morgan



FIRST FLOOR

SCALE
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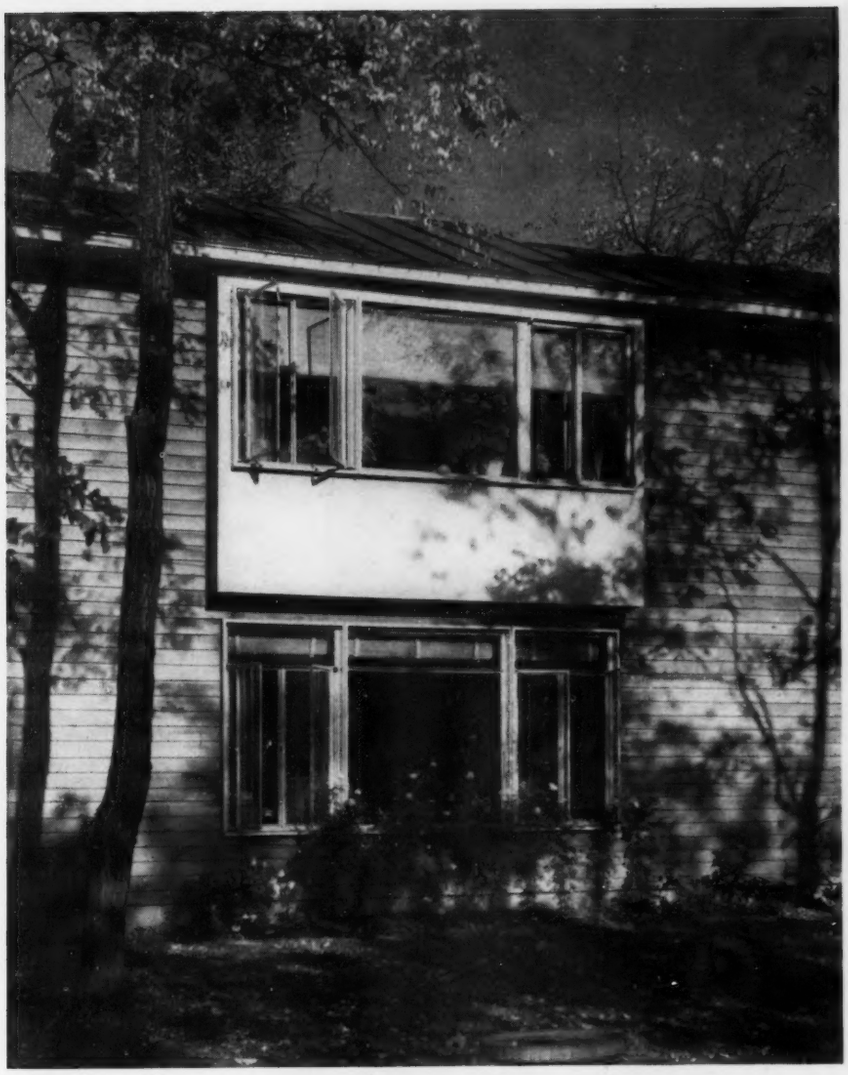
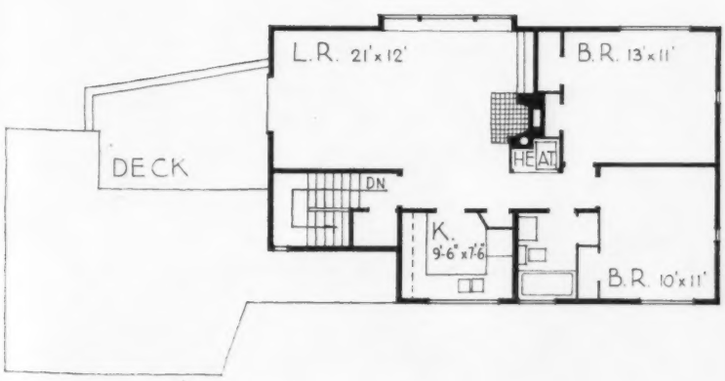


Two-Family House

LOCATION: PRINCETON, N. J.

Architect: Rudolf Mock



SECOND FLOOR

More often than not, the two-family house in America has little architectural merit other than the bare fact that it protects two families from wind and weather. On these and succeeding pages, we present a house in this category that does much more than merely shelter two families: it provides each of the two units with amenities and a gracious home setting of a standard comparable to that of the carefully designed single house; it organizes the two units into a well-knit whole that takes its place proudly in a neighborhood of substantial single houses, and it employs materials in both conventional and contemporary forms to produce what we consider modern American architecture of a high order.

The design problem was to provide a suitable home environment for a widow who wished to live by herself, but not in isolation. The solution was a dwelling in which she should have her own home and a rental unit combined. As it happened, her needs were for a two-bedroom apartment of a size that is readily rented; so, the two units are essentially identical.

In each unit, the generous living-dining room is equipped with built-in bookshelves, a fireplace, and a bank of windows looking out on the lawn and garden. On the second floor (where the owner lives), these windows are contrived as a projecting bay, which, in combination with the high, asymmetrically sloping ceiling of the room, appreciably increases the apparent spaciousness of the room. Outdoor living space is provided for each apartment—a flagstone terrace for the ground floor and an open deck for the owner's home. A notable provision for the latter is a storage closet for outdoor furniture that occurs in the upper portion of the garage structure and is accessible from the deck.

Rudolf Mock, Architect

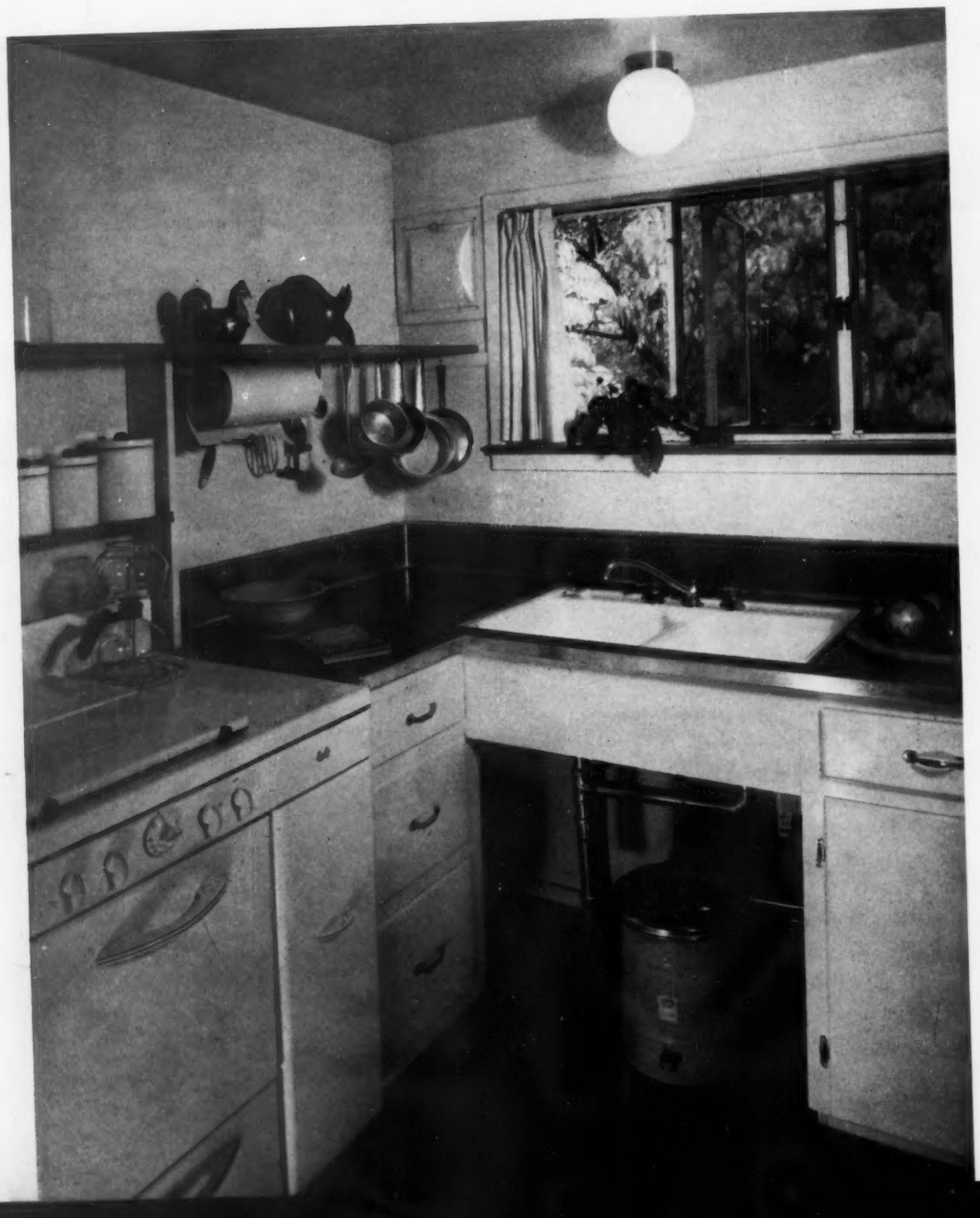
The house has no basement, but is built on concrete-block foundations and piers with appropriate venting to the outside between floor joists. Ground excavation extends to 2′-6″ below the joists. Between joists, batt-type insulation is installed. Heating units occur in fireproofed closets in each apartment.

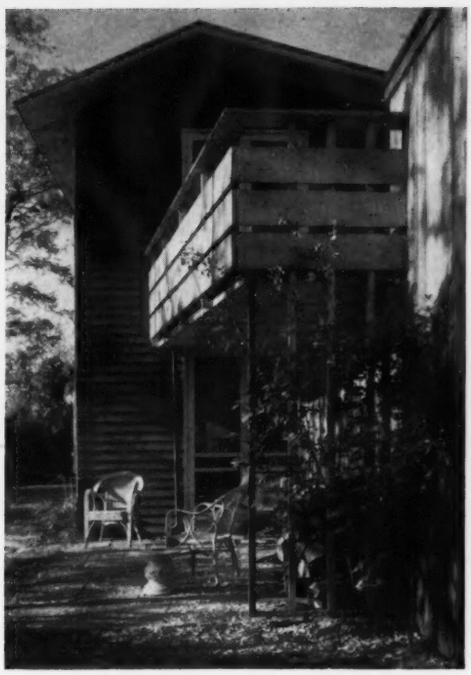
Structurally, the house is of frame, with bevel siding applied over board-type insulation-sheathing. Sash are steel, of both fixed and casement type. The roofing is tin, painted red. Members of the family tell us that from the outside, especially in Summer, the house presents a rather gay appearance when from the street one sees the red roof, the rich wood tones of the siding, white trim, a beach umbrella, and pink geraniums on the deck, and the heads of people sitting there.

It is instructive to focus on a few of the smaller details which provide considerably greater living amenity at very little added cost. Beside the entrance door, for instance, is a pair of built-in package receivers, one for each home, where things

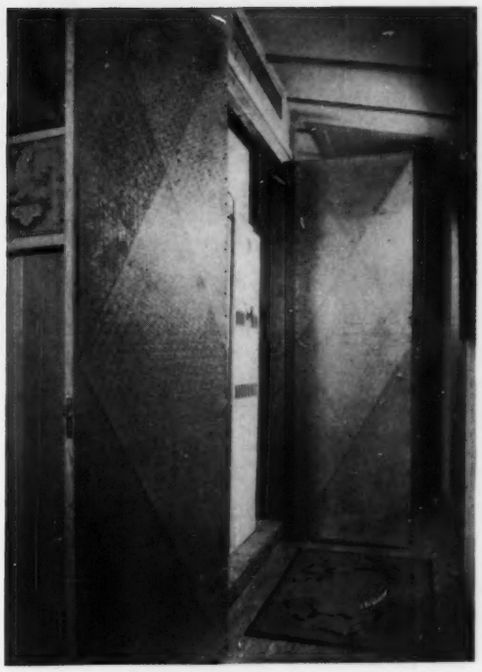
Rudolf Mock, Architect

A wall ventilator supplements the kitchen casement windows.

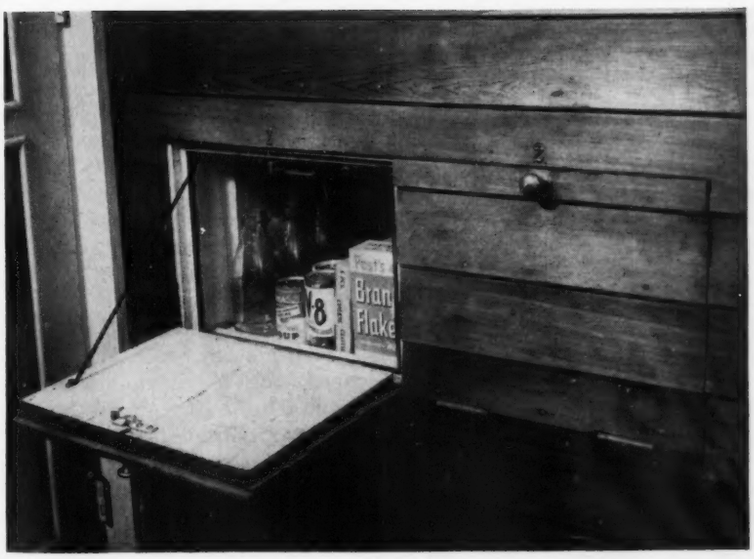




The tier of outdoor living rooms



A metal-sheathed closet holds the heating equipment.



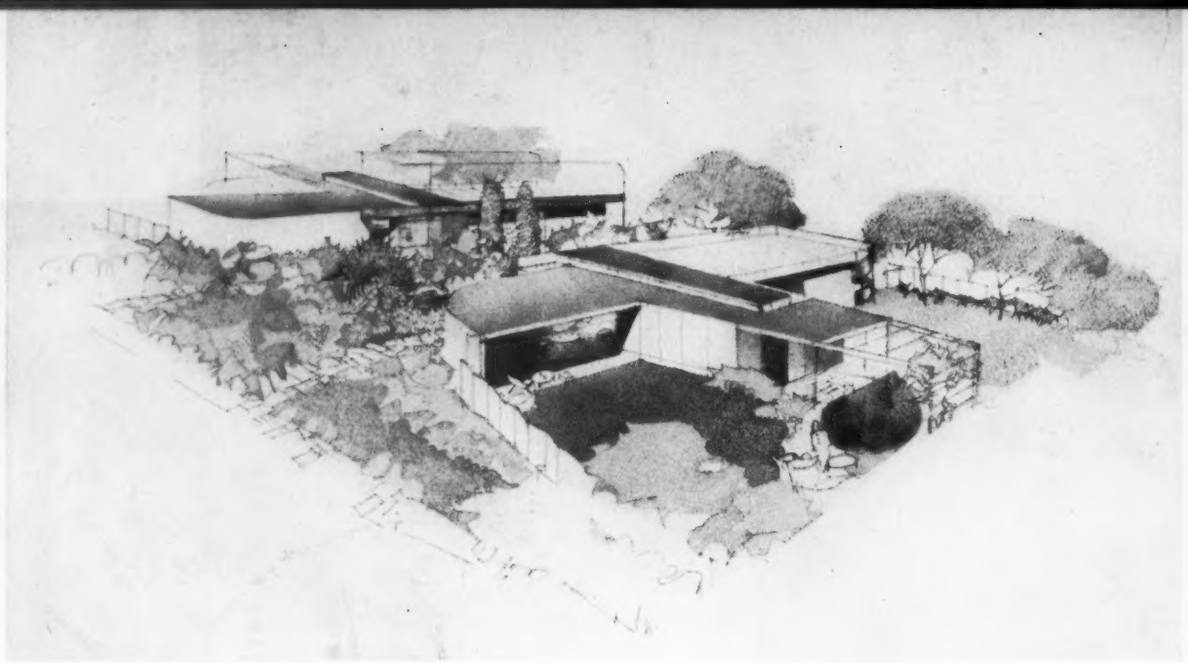
Drop-front package delivery units

Convenient, out-of-sight refuse and garbage container

can be left when families are not at home. Then there is a neat closet conveniently located under the canted garage roof, which contains rubbish boxes and garbage cans and keeps them out of sight. In each of the bathrooms there is a large linen closet with seven shelves; each apartment has a broom closet with a shelf overhead, and in each of the kitchens a built-in drop-leaf table is provided.

Throughout, in fact, the house is a highly practical example of forthright, contemporary residential architecture. There was no effort to do anything startling.

Neighbors, it appears, like the house; but some seem rather surprised that "anything so inconspicuous should be considered a 'modern' house."

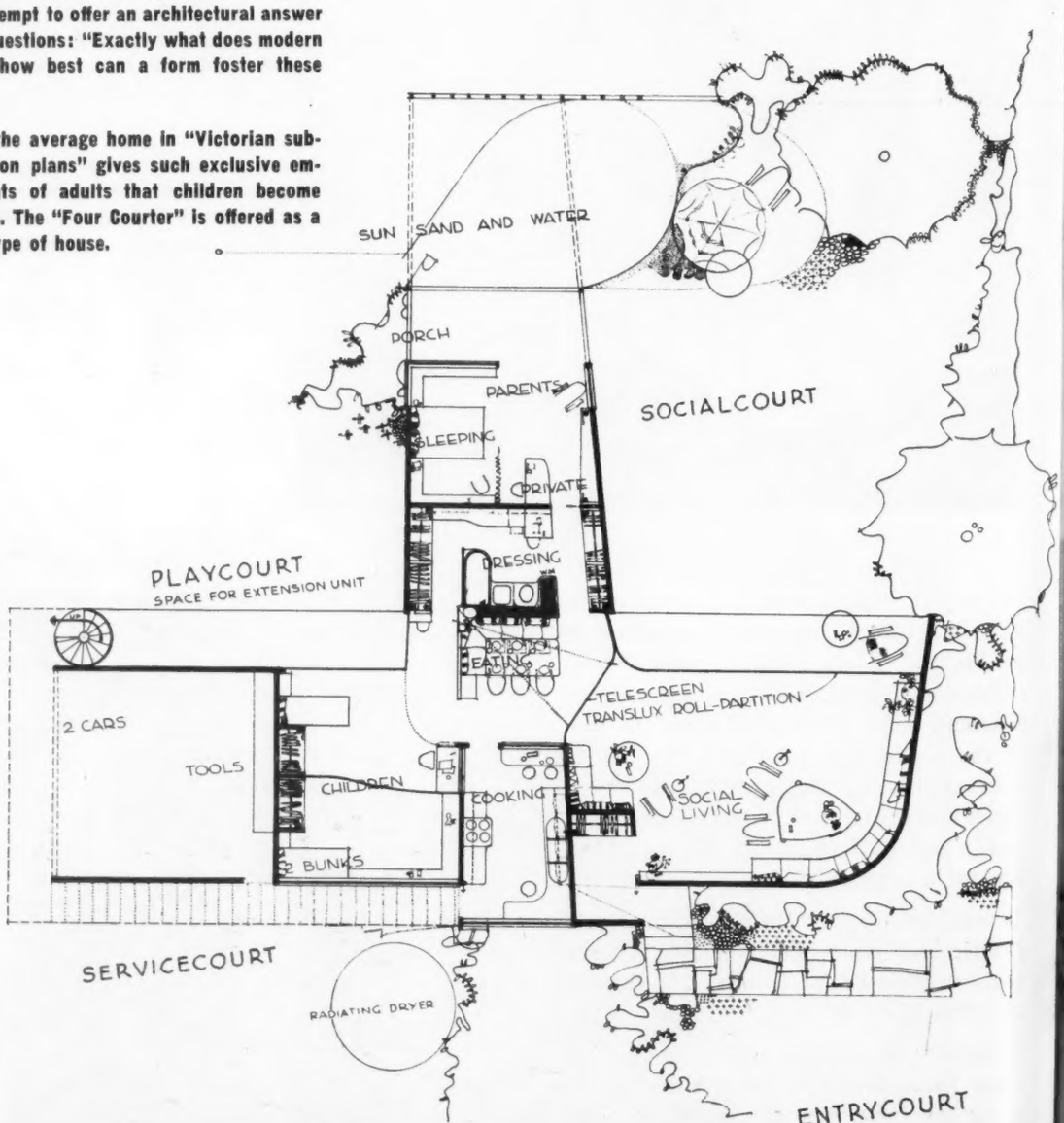


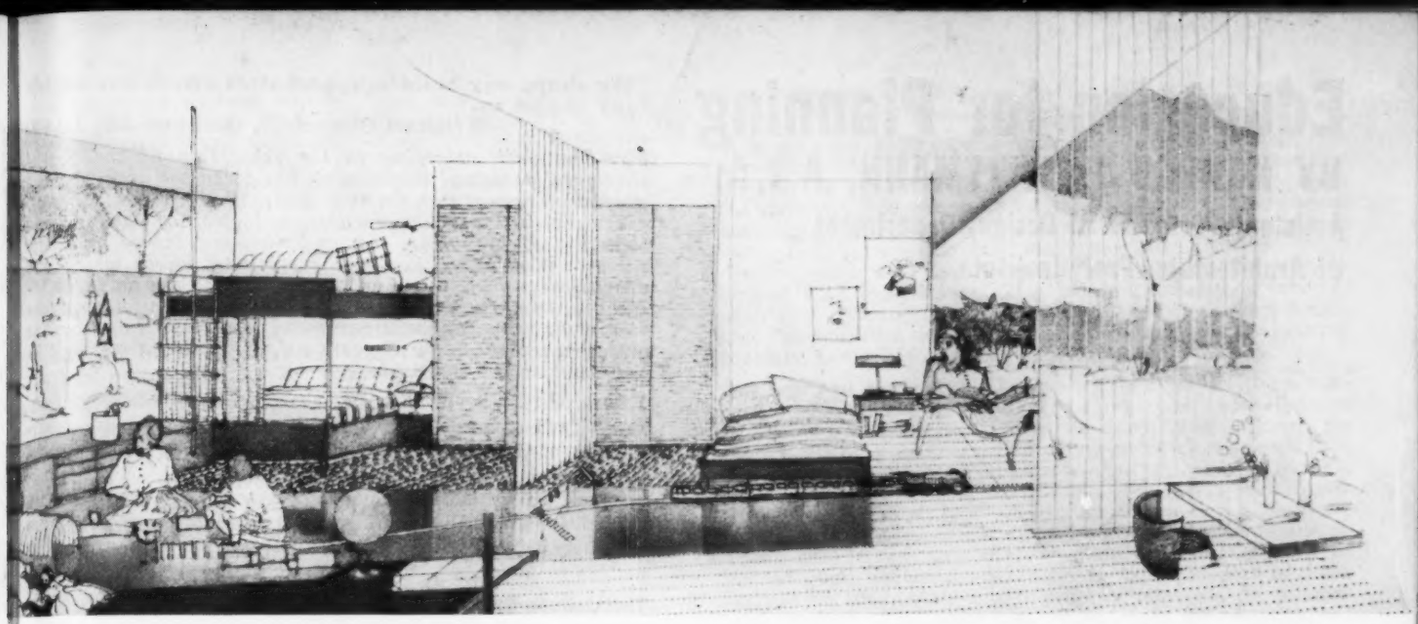
Richard J. Neutra Designs a "Four Courter" House for Tomorrow

DION NEUTRA, COLLABORATOR

Like the community scheme of which it is planned as a part, this house is an honest attempt to offer an architectural answer to the too-seldom asked questions: "Exactly what does modern family life require, and how best can a form foster these functions?"

Too often, Neutra notes, the average home in "Victorian subdivisions with their gridiron plans" gives such exclusive emphasis to the requirements of adults that children become practically misfits in them. The "Four Courter" is offered as a direct challenge to this type of house.





A roll-partition divides the children's room into separate sleeping quarters; playcourt, at right.

Mr. Neutra suggests that one possible way to unbuild and rebuild a block or development that some speculator has foisted on a community might be communal acquisition of the property in bulk by several congenial families and rebuilding in human scale and proportion, eliminating the deadly rectangular geometry of rows of lots and blocks.

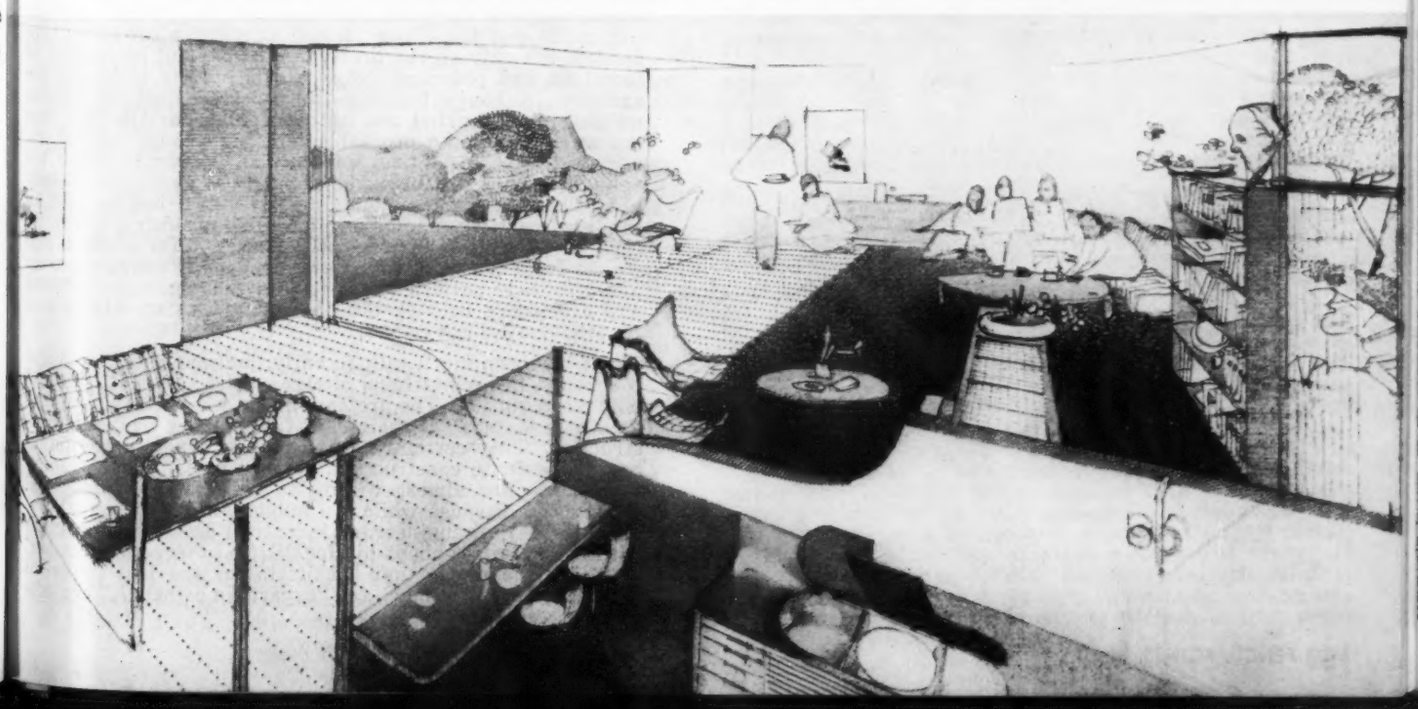
In the unit plan proposed for such a renaissance, the following family-life factors were considered: provision for the individual: sleeping, bathing, dressing, reading, etc.; provision for family activity with or without friends; children and adults dining, conversing, sharing common interests, playing music, etc. In addition, to promote good neighborhood life, the architect suggests a common swimming pool, tennis courts, and, perhaps, even a jointly owned guest house.

A few of these highlights which the particular plan reflects: the house faces a park, not a street; the access street is alongside. Windows view only the house's own grounds, leading to the "Four Court" idea—in effect, four special-use outdoor rooms developed behind prefabricated screen fences. One is for visitors and main entrance; the second is a service yard; the third, a social room for adult relaxation, eating, or entertaining without being disturbed by children; and fourth, a place where the children can yell and jump about without being disturbed by adults. Linking the latter two areas is a neutral "island" for the enjoyment of all, with a sand "sunning beach" and some sort of spray or pool.

The architect figured his plan areas on the basis of "square-foot hours" of living, eliminating whatever space added nothing but a cleaning chore. From this study arose the basic scheme of a "flexible arrangement of usable spaces around a service core and center." A typical modern provision is the suggested scheme for movie entertainment: a projector installed in the corner of the eating space throws the image onto a telescreen drawn across a corner of the living room; spectators can lounge on seats bordering the far corner of the room.

The kitchen is thought of mainly as a built-in mechanical unit. A spy glass over the sink enables the hostess to view front-door visitors. A microphone welcomes the guest, and a push-button opens the door. In the opposite wall, a one-way transparent window allows supervision of the children in their own room or court. For heating, the architect specifies radiant floor and ceiling panels.

Cutaway view from the kitchen, showing the dining-living-social court areas; floor lines indicate location of drawn partitions.



Education for Planning

BY KONRAD F. WITTMANN, A.I.A.

Assistant Professor of Design, Department of Architecture, Pratt Institute

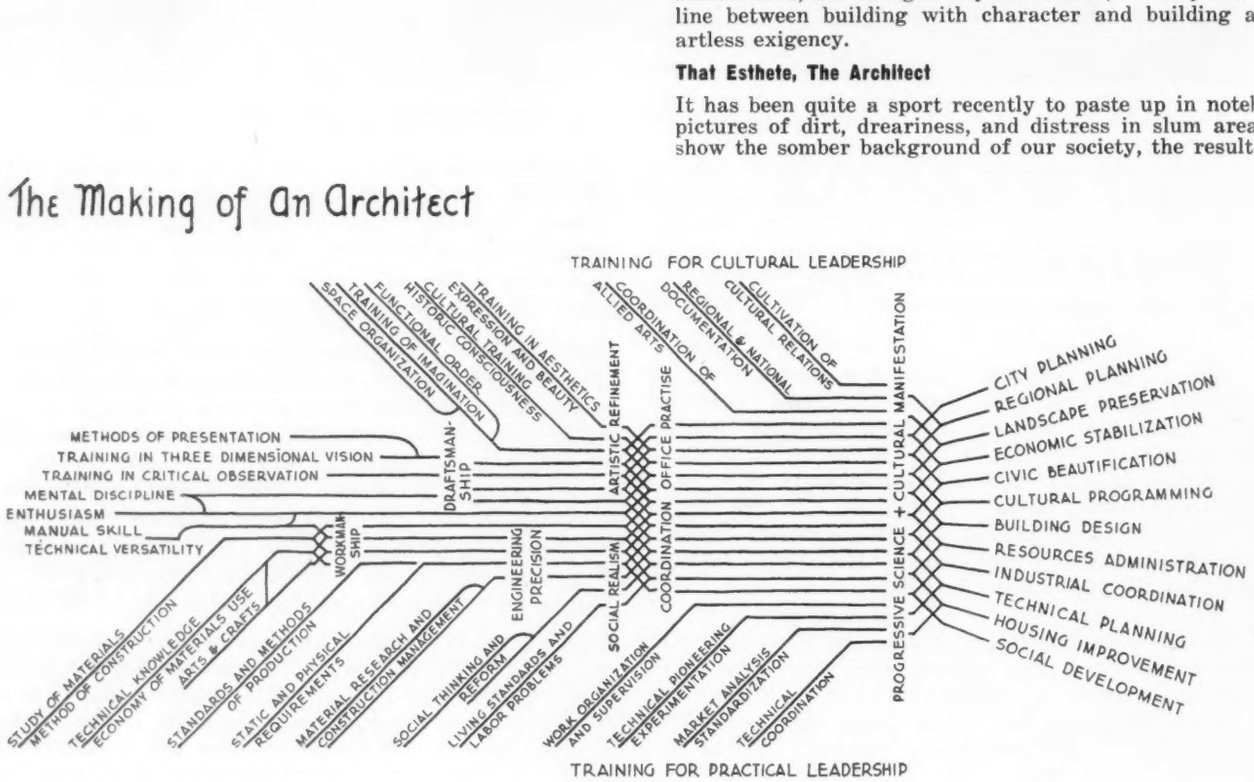
"We shape our buildings, and afterwards our buildings shape us."
—Winston Churchill, October 28, 1943.

Mr. Churchill, referring to the rebuilding of the bomb-shattered Houses of Parliament, has given the architectural profession a most significant slogan: The architect, through his work, becomes an educator, a former of the nation's thoughts. Buildings are seen as books, or speeches, or political or philosophical dogmas: compelling forces which act deeply upon our lives. Houses and streets known in childhood leave their marks on much of our thinking; places where we work influence our mood; and places of worship or fame, several hundred years old, carry still a message to our most secret emotions.

Few architects seem to realize that through their work they reach far beyond mere necessity, that the sincerity or superficiality of their buildings creates in turn sincerity or superficiality in those who live in them. When these reactions, unconscious or subconscious yet nevertheless active, these infiltrations, are thoughtfully husbanded, we may draw the line between building with character and building as an artless exigency.

That Esthete, The Architect

It has been quite a sport recently to paste up in notebooks pictures of dirt, dreariness, and distress in slum areas, to show the somber background of our society, the result of a



don't-care attitude of commercial exploitation that has produced blighted spots on our economic happiness. Nobody can really put the blame on any particular group or profession, but only on the pressure of time, and on neglect of foresight and planning. It would be unfair to blame the architect, although buildings and all the sheltered spaces which house mankind are his particular domain. He was not asked when the profitable tenements were rushed up, and had neither political nor cultural power to make his opinion clear. Even now, the architect is godfather to only a small percentage of buildings in large towns, and in smaller towns, even in farm and village country, his influence is altogether insufficient. Houses form streets and streets form towns, and we know that many towns grow up and bite their pattern like acid into the landscape without any architect's help or blessing. How can we blame him for what he did not control?

There has been much talk recently, and many disappointed comments, in architectural circles on the architect's lack of public recognition. The profession as a whole complains that architects do not get their rightful share of available construction. They certainly did not get it out of the building boom of defense construction. Things are so disheartening that many are almost willing to drop their professional designation, because while the public willingly pays an engineer, architect-engineer, or industrial designer, it haggles with the architect about his fee. Some observers point out, to soften the pinch, that architects for the last 50 or 70 years have been too much the "experts in esthetics," neglect-

ing the more profane side of their work, subcontracting heating, steel construction, lighting, and so forth, to their rising engineering competitors. If the first part of the sentence be true, and true for, say, two generations, we should certainly be able to congratulate ourselves on a high accomplishment of beauty, visible all over the country. But apparently no such thing was accomplished. Our streets have a thousand faces but no real face. Our towns may have a hundred masterpieces, but the towns as ensembles are no masterpieces at all. The second part of the above sentence reveals a tragic neglect. The unity of architectural work has been split up into specialized occupations, and no part —nor any other organization or governmental agency—can be held responsible for the interrelation of all building activities and the representation of a national standard.

Cities Without Purpose

Our towns reflect that disunity, under which the architect became too tied-up with business interests and competitions, too ready to heed fading fashions. In Europe, by comparison, architectural supremacy was firmly established before the industrial era could break off bits and pieces, and even the mistakes of detrimental decades have left enough in towns like Paris, Florence, Munich, or Copenhagen to display their impressive character. Here, however, in our rapidly growing cities it would have been necessary to establish beforehand, with vision and discipline, such an architectural goal.

That process of shaping and countershaping, through architecture, went on in Europe for centuries. We call it tradition. It was a slow process, a process of selection, to be sure, implying the survival of the fittest. The relative simplicity of European private industrial systems and strong national and social cohesions favored its success. Our time is much more confused, our society is much more complex, our industry is impersonal, our beliefs are out of balance. Architecture, however, is a true mirror. American towns reflect that inconsistency and vagueness, as do European towns since about 1850. The problems are the same all over the world.

For a hundred years we went through a period of experimentation, not unlike, in trends and results, the confusing political struggles between nationalism and internationalism which brought our world near to catastrophe. Out of distress evolves and is shaped now a clearer statement of policies, ideals formulated and brought to the fore. Why don't we in our architectural field of battle accept a similar challenge, state a definite policy—and assume the responsibility to carry it through? Or will we spend another century in experimentation?

Are We Ready for a Building Spree?

Many committees, agencies, and city councils are working on postwar plans. They compile lists of buildings to be started immediately after cessation of hostilities. Some are already in the blueprint stage. Plans are well guarded, to avoid too much public interest and controversy; but all in all it looks like an impressive accumulation of figures, of building costs, man-hours, dwelling units, tons of steel and cement, of bathtubs and refrigerators.

It is an orgy in numbers, under pressure of the economic necessity of keeping as many people on payrolls as possible. Artistic or spiritual issues are hardly permitted to enter the picture. Are we prepared to make such a tremendous building program an architectural success? Have we stated our policy, have we clarified our issues? One to two million dwelling units every year, with an adequate number of public buildings, business and office buildings, churches, schools; with new communication systems, relocated factory areas, and rehabilitated downtown sections, present a staggering problem, never before faced in architectural history.

But how are we prepared? Can we marshal all those connected with the building industry (and those who will jump into it) to live up to their great opportunity? Have we enough young men trained in sound principles to step into the job? What types of buildings shall we take as models, or, if we refuse to look for models, have we a philosophy settled enough to start overnight something new? Shall we build the same type of buildings in Virginia as in Maine or Arkansas? If not, how shall we build in Virginia, how in Maine? Shall we build schools, for instance, similar to those finished in 1941, with pseudo-colonial pilasters on pseudo-brick walls? And churches? And wayside restaurants? How are we to place these countless houses if no agreement exists on the basic requirements of a city plan—and if in many cases there is not even a city plan?

Burnham said: *Let us make no little plans.* Economic pressure will make the big plans; but to see **that the big plans are good plans, that is the task of the architect of 1944.** What constitutes a good plan?

For a long time a plan was considered good if it served its owner well. That was functionalism from the inside to the outside. But strangely enough, many such good plans together became a burden on the community. It was *individualismus,* wherein everybody saw only his selfish interests.

To Discover GOOD Plans

The city planning idea, with all that it implies, is a true expression of democratic principles. It is foresight instead of hindsight, it represents economy instead of reluctantly accepted waste, and order instead of confusion. It professes the principle, now so firmly established in medicine and social life, that an ounce of prevention is more valuable than a ton of doctored repairs.

We shall never discover the good plans if we are reluctant to criticize bad ones. Every town should have, by this time, a group of independent people surveying the town for good and bad features: congested streets, dangerous corners, ugly buildings, big signs, billboards, incongruous association of the profane and the monumental, industries in the wrong place, smoke and noise, extravagant facades, bulky alterations, neglected landscaping, the pest of gasoline stations, depraved housing, spoilt historic spots, etc.

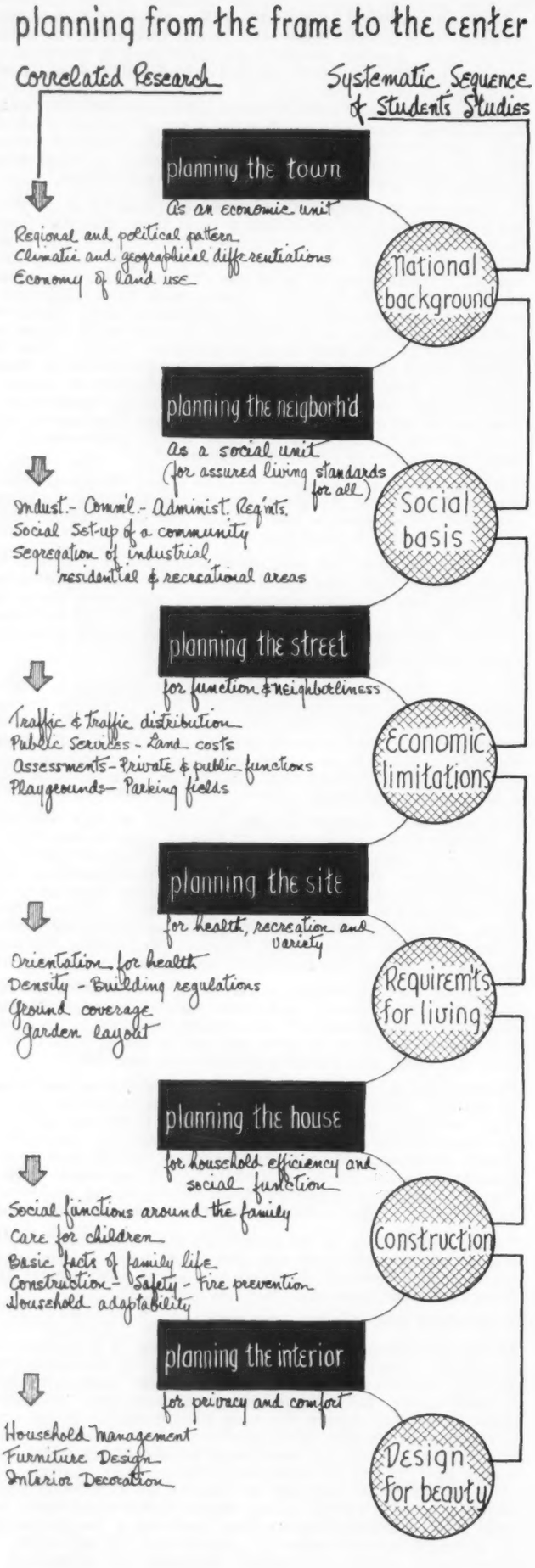
We do not have to eliminate the word *beauty* from our vocabulary, as so many architects suggest when they talk about the "city beautiful" with embarrassment. The architectural character of a town is a public asset, even if it is hard to define, and building codes never mention it.

Philosophies do not drop as ripe fruits, and they are tested by action. Everything will be lost by an "I-am-not-responsible" attitude, and much will be gained if we see our work as a manifestation of the democratic community. Our efforts should, however, not only circle around the big towns, but penetrate to the smallest community. That would give a chance to control things right from the beginning, and would at last bring to the architect the widest possible recognition.

Such a wider vision of the architect's activities and the shifting of his interest from the individual home to the whole community (of which the house is a part) have a most profound influence upon architectural education.

Architectural Education for Leadership

If the architectural profession is to lead in planning and correlating the needs for site and shelter of the whole community, and of every individual within that community, both in conformity to national ideas, architectural education must become education for such a leadership. Many more subjects must be adequately represented in the architectural curriculum, and every item must be checked against that wider background of expanded duties. It is obvious that such a wider field can not be handled in a shorter, accelerated program (which many schools favor right now) but only in an expanded curriculum, covering a longer period, or through intensification of present courses of study. If advertising artists or fashion designers are scheduled to study three years for a certificate, it would be nothing less than a miracle for young architects to rush in four years



through such a complex combination of arts and sciences.

Design Instruction

Most architectural schools begin their design instruction with small buildings, proceeding step by step to larger, more complicated structures. Finally, in their last year, with hardly enough time left, the students take up city planning, a nice lineament of curved streets, playgrounds, and parking fields in the currently prevailing fashion. At this point in the course of his studies some deeper convictions and philosophies should take root in the student. At this time he should grasp his place as a planner in practical things for a spiritual ideal. But he has hardly time, between theses and tests, to consolidate such ideas; he is already being pushed into earning money and getting along in an office.

Would it not be logical to take just the opposite sequence, starting with city planning right at the beginning, and filling in, through the school terms, the mosaic of the well planned city, with streets, parks, playgrounds, private and public buildings. Let the student see, even in his first term, the larger framework of his calling, and let him realize early enough that, although he is fulfilling the requests of his individual client, his work, his building is eventually to become part of a public, a national, performance. Let him find his philosophical basis first, and give him time to discuss, to broaden, to mature his ideas—which will make every design, even for the simplest house, a much more exciting valuable enterprise, because it is seen as part of a larger national pattern.

We want to train idealists at heart and realists in performance. Let us not produce experts in display who are yet poorlings in social and human matters. We need a great many realistic idealists for the tasks ahead.

City planning, in the following text, is used as a short, familiar term for all planning on a wider scale, not limited to cities, but including country planning, regional planning, farmland planning. The English, at a loss for a more precise term, have called it "town and country planning."

City Planning

Let the student begin with city planning. That will give him a good foundation. He will see the climatic and geographic conditions which shape regional differentiations. This will give him time to make his own observations on trips through the country. Let him see population trends, shifting of industries, national and domestic resources—which account for many ills and beauties of the past. He will see the town as a living organism where neglect in planning is followed by decay. He may go on studying the industrial-commercial-administrative requirements of smaller units, villages, neighborhoods, farmsteads. These things are easily accessible to him, and he may sharpen his criticism in making a thorough investigation in his own native town. He proceeds by studying streets and open spaces, their function and adequacy, their importance as elements of architectural space. From there to subdivision and site planning is only a step, and when he finally arrives at *planning the house*, he has a good stock of observations and social judgment which will prevent him from designing fantastic dreamhouses for a never-never world. This is planning from the frame to the center.

Planning from Inside the Ivory Tower

It is a custom in many architectural schools to give students a great variety of design problems—a week-end house, a fire house, a school, an office building—all on hypothetical sites and with no restrictions imposed by neighbors or landscape features. The student in such cases prefers to design his building for Southern Arizona, which delivers him from the intricacies of roof design, and because he likes to use the cantilevering slabs which he finds so interesting in architectural magazines. At the end he has a series of design studies, all developed "from the inside out," portraying all the vagaries of unrestricted imagination, but with no correlation between them, and with none seen as a part of a greater whole. However, architectural practice on actual jobs is much different. Neighbors to the left and right are a painful, often difficult, problem. Let the young student design streets instead of houses, and architectural spaces instead of buildings, and we shall at length come to that concordance and mutual conformity in an ensemble which we call character in city planning. It is the chronic defect of all our towns and villages that every architect who built in them saw only his own job, that one house, that one cherished vanity, and did not care a bit for the greater whole. The slogan that we should plan from the inside out has been very convenient for those who thought only of their own selfish interests. And it is a splendid excuse for those who lack versatility and imagination to respond to specific re-

quirements which influence house design from the outside.

The young architectural student who labors for the first time to design a small house (6 rooms, kitchen, garage, or so) is a pitiful sight. He discovers suddenly that he has not seen anything, never looked at anything intelligently. He has seen only a few such houses from the inside in all his life, and perhaps never a good one. Space requirements, furniture arrangement, dimensions, construction—there are so many things to consider. He really has a hard time.

Memory Training

Most students when they leave high school, or even after some years of college, have no training in observation and a very limited stock of definite impressions. It is amazing how little they have seen; that is, analytically perceived. The building-up of a storehouse of precise observations, of likes, dislikes and intelligent criticism, is one of the first, basic tasks of architectural policy. It would certainly not be wrong to use the first two or three terms of study explicitly for just that purpose: not to supply information, but to direct and sharpen observation and to cultivate critical faculties. Observation can be trained systematically, so that he may pick out essentials. A well stocked memory of reactions and impressions is a great asset to the designer, just about as important as a rich vocabulary to a writer. Memory training supplies the raw materials for imagination, materials to be shaped afterwards by discriminating taste and deductions from experience. Field trips, twice or three times a week, on which the student sees apartments and houses in use, shops, restaurants, public buildings in operation, ugly and good examples alike, would give him a sounder understanding of the requirements of use and living than any "research" in the library. Let him make measured drawings, not of columns or ornaments, but of room sizes, floor plans, staircases, street sections, equipment, and he will finally acquire a sense for space, a feeling for the three-dimensional qualities which he can never get second-hand.

Practical Instruction

One word in passing about the teaching of building construction: This is usually a very dry subject, at its least imaginative level, consisting of tracings from Graphic Standards. Here again experience through the eyes, and through actually doing things, exceeds in value all paper science. Regular visits to buildings under construction, and at least one vacation spent in actual work in a carpenter's or contractor's shop, should be a required part of the curriculum. Builders should be invited to collaborate with schools in establishing some kind of apprenticeship in the interest of a more balanced education.

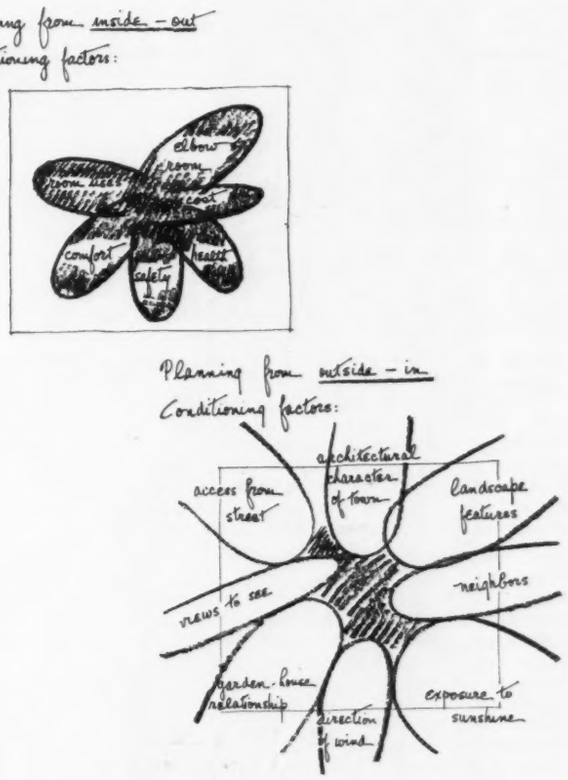
The deficiency which disturbs the graduate most when he enters the profession is his lack of knowledge of construction details, prices, and material specifications. Many schools are so busy producing pictures for display or intercollegiate competition that they hardly find time to go very deeply into construction and working drawings. It should be a matter of routine discipline, however, that no design is considered finished which does not contain at least one detailed, dimensioned section. This would keep the student's feet on the ground even if he finds the requirement pedantic. Engineers are much more exact to the last angle and rivet, and engineering construction has therefore become a model of precision and homogeneity, whilst architectural construction deteriorates more and more to a makeshift assembly of panels and substitute boards kept together by paste and screws.

Some schools require, before admission to final examinations, several months of work in an architectural office. The wisdom of such a requirement can hardly be underestimated. It is advisable, however, that this office interlude come neither too early (in which case the student would be used only as a pencil sharpener) nor too late, in which case practical experience is acquired long after it could have the desired effect on his design studies. Such office work is an eye-opener; the student finds work in an architectural office is not all just pleasant "design." Halfway through school would be a good intermission; the student might return to school a bit more serious-minded, and with a more realistic approach. It is easy for the instructor to push the student into fantastic experimentation, but it is more valuable to harden him for the complexities of his profession.

Complaints are frequent that the graduate, after leaving school cuts a disappointing figure in an architectural office. He wants to do some of the design on which he spent some 40 or 50 percent of his time in school, and he discovers that construction drawings, contract documents, and supervision take most of the architect's time. Whatever hours are left for design are so few that the designer works under pressure and with innumerable interruptions. The student is not trained for that, and so disappointment creeps in. Too great a part of his real training is left to the hazards of office practice. He grasps bits of information here and there, opinions, tricks, business practices, but the ideal coherence is likely to get lost in such an after-education.

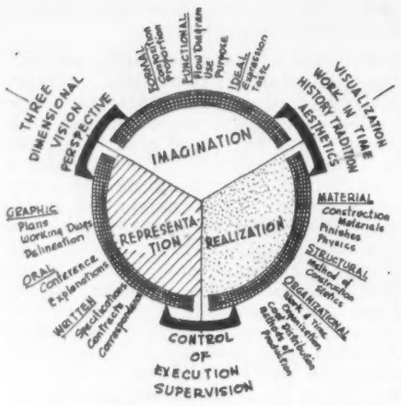
Office practice is a hard struggle with the banalities of life; with clients' fancy wishes and small pockets; with unstable building prices, technical difficulties, timetables and contracts; with open and hidden dishonesty, neglect and stupidity of workmen, restrictions of red tape, and reactions from friendly and unfriendly neighbors. It is easy to make a brilliant drawing, hard to finish a good building. It needs enthusiasm and persistence to carry the 10 percent of architectural idea through the 90 percent of bureaucratic and technical obstruction. It is always worth while to go through all the trouble if we are obsessed by our idea. If that spark of enthusiasm and interest gets lost in the drudgery of design and execution we get a dry, cold, impersonal edifice, as are most buildings on every street. Every architect, if he can not learn it from Michelangelo, will learn by personal experience that very seldom is an idea allowed to ripen in purity, and that most buildings, even good ones, are the result of an uninterrupted chain of compromises. It needs a lot of courage and fighting spirit to emerge from all such concessions without defeat.

We may deduce, however, from such experience that **there are two things which we must strengthen in ourselves and cultivate in our students; the one is enthusiasm; the other, flexible, adaptable, fighting spirit.**



A whole curriculum may be written around these programmatic requirements. How little enthusiasm have those students who endure their studies as a routine "must," eager to find out how to get their credits with as little effort as possible! If the school does not give them that enthusiasm and that backbone of character and persistence, they may never get it in office practice. To arouse such enthusiasm, well understood, we need teachers who have it themselves—and plenty of it. Not booklearning and literary achievement, but practical experience, enthusiasm, and perseverance (which includes a good deal of patience) make the good architectural teacher.

The intermediate place of architecture between art and science has led to a more free approach in architectural education, without the systematic exactness of engineering and without the methodical, perpetual exercise which is the premise of success in music. The student is started in design "with cold feet." He needs manual ability, vision, memory, imagination. All these must be systematically trained. Imagination can be enriched considerably by proper exercise. It is an axiom that the first design is seldom the best, the second usually better, and that sometimes we can penetrate to the heart of the problem only after half a dozen carefully studied efforts. Let the student prepare a second and third variation, not sketchy, but well considered; let him


IMAGINATION
REPRESENTATION
REALIZATION
CONTROL OF EXECUTION SUPERVISION
THREE DIMENSIONAL VISION PERSPECTIVE
FORMATION COMPOSITION PROPORTION
FUNCTIONAL How Diagram Use Purpose
IDEAL Expression Taste
VISUALIZATION WORK IN TIME HISTORY TRADITION AESTHETICS
GRAPHIC Plans Working Dwgs Delineation
ORAL Conference Explanations
WRITTEN Specifications Contracts Correspondence
MATERIAL construction Materials Finishes Physics
STRUCTURAL Applied Art Statics
ORGANIZATIONAL Work & Time Organization Cost Distribution Economics of Production

THE TRIPARTITION OF ARCHITECTURAL EDUCATION

argue the merits of one design against the other's, and he will in the end gain flexibility and a conscious imagination. To build up three-dimensional imagination is one of the first duties for the organization of space, if easy-going decorative schemes are to lose their validity.

History Stupidly Applied

There is, for instance, study of architectural history which, after overemphasis for many years on certain periods, encounters an almost defiant attitude from the progressive student. It is a good sign that a fresher wind blows, just in time, though almost too late for the coming boom. We shall still see, I am afraid, a great many classicistic and eclecticistic adaptations. We hardly have time to clarify the issues, and we shall endure many ugly, immature experiments.

There are still schools firmly entrenched in the old *Beaux Arts* method. Some ten years ago the majority of colleges held to that system. Architecture was pyrotechnics on large sheets of illustration board. It was an easy-going method with a *Beaux Arts* prize rather than professional efficiency as the coveted goal, while the engineer took over most of the building. If today we remodel our pretentious, impractical public buildings and complain of non-existent public relations, we pay the price of an architectural education divorced from reality.

The student is right if he is suspicious of "the historical approach." He looks for books to guide him. There are only a few on architectural design, and these are stuffy and obsolete. He might just as well go back to old Vignola and Palladio. What books there are were written by people who, perhaps, never ran an office. They may, in a chapter added to the last reprinting, pay lip-service to the "modernistic style," but you can hardly expect that one who was thoroughly eclectic 20 years ago could change much in a lifetime.

But what should the student think about honesty in design if he picks up a book published only last year? He wants to learn how to build a house, and discovers in the first chapter that the house of his American contemporary may have the following styles: Modernistic style Old English or Cotswold style Tudor style Elizabethan or English half-timbered style Norman farmhouse style Jacobean style Georgian style American Colonial style New England Colonial style Garrison Colonial style Cape Cod style modified Colonial style Southern Colonial style Dutch Colonial style Regency style French Provincial French Chateau style French Canadian style Italian style Spanish type Monterey style California Ranch style Modern style and Ultra-Modern style. Poor student! No wonder he becomes desperate! No criticism is appended to the nonsensical labels and historical prostitutions. If he finally overcomes his dizziness and looks for honest merit in design, he notices that at least 20 of the 30 illustrations are of extremely poor quality.

There is still a very big gap between progressive, sincere architecture and public preference. Real estate interests dictate public taste. It is a sign of good courage on the part of the student if he gets through the flood of advertising unharmed. He may tour the big department stores to find that the last cry in interior design is Victorian revival, the distorted revival of a distorted stuffiness, with curved legs and dust-collecting draperies, baroque mirrors, rose garlands pasted on walls and furniture, Chinese lamps to house electricity, and chimes to bring the sweet melody of Easter bells into the home. The advertising writer, that squash, has no respect for structural sincerity; he stirs up a vogue for Chippendale today, "Modern" tomorrow, and French Provincial the day after.

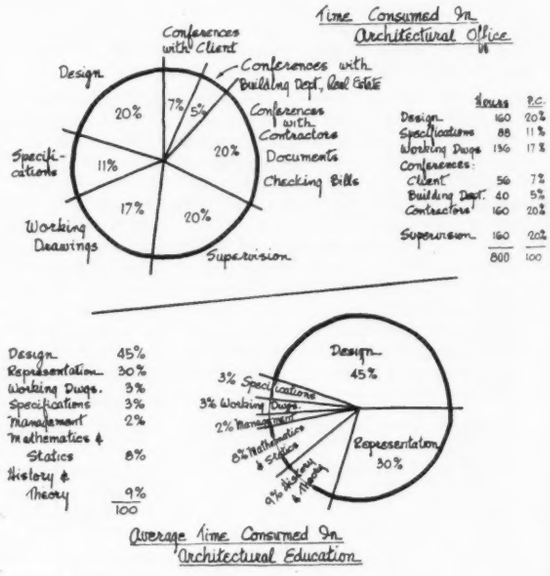
At the same time, whilst interior decoration sometimes goes wild, new houses are built and called developments, block after block of them, "housing for the masses," which are depressing in their graceless repetition, where elbow-room is reduced to the minimum standard, where apparently no architect cared to inject some human touch. The student may have difficulty in finding the common denominator.

—and History Soundly Taught

However, we cannot dismiss historical studies too readily. On the contrary, we must deepen their meaning and give them a new mission. So many Americans are now in far-flung countries that new ties, new interests, and cultural exchange will persist for a long time. Greece and Egypt are nearer to us now than ever before, but in a very different way. We may foresee quite an influx of ideas. European architectural history is interesting as a continuous exposition of internationalism and nationalism, or regionalism, a brilliant play of attraction and repulsion. We have similar tasks to perform in our immediate future. One nation, welded together out of various hyphenated elements, must find—and will find—one national architectural expression, and at the same time that one crystallization must display the facets of regional differentiation, if we want to avoid wishy-washy, commercialized internationalism. Historical studies must furnish the quarries, not for finials and Corinthian capitals, but for the meaning of forms, the significance of evolutions, the racial and geographical inclinations which form that intriguing pattern of genius and beauty. It seems advisable that architectural history should not be a detached lecture course, but a tie-up with analysis of design, developed simultaneously with design problems. Analytical esthetics might be a better name for it.

Arts and Sciences Interwoven

The education of the architect must be put on the broadest possible foundation. It must contain, at least as electives, many subjects which help the young man to understand the complex pattern of our society. The close affiliation of architectural schools with fine arts schools (which is almost a rule) may have advantages if every opportunity is offered to introduce the architect to the creative problems of other arts, of industrial design, garden design, theater, and music. The tie-up may have the disadvantage, obvious in many cases, that the nonchalance of the artistic atmosphere produces an imaginative renderer, whereas clearness of draftsmanship and technical exactness are prime architectural requirements. Close ties to the engineering and socio-economic departments are necessary to acquaint the student with the



harder facts of statics and mechanics, steel construction, shop management, building maintenance, population and social background studies. The layout of most European universities with many departments under one vast roof makes it easy for the student to pick up some information and scientific interest by just "dropping in" on lectures in other departments; but the pavilion system of most American institutions easily produces a "closed shop" aloofness. Announcement on the school bulletin board of specific lectures in other departments may arouse some spontaneous curiosity. Conversely, it would be good for the engineer, agronomist, or sociologist to cultivate a more comprehending interest in architectural planning problems. City planning, as said before, is an eminently democratic affair which needs the active interest of every citizen. It should be a true representation of our democratic ideals, stressing not the independence but the interdependence of all concerned.

Photos by George Van Anda

Country Home in Connecticut

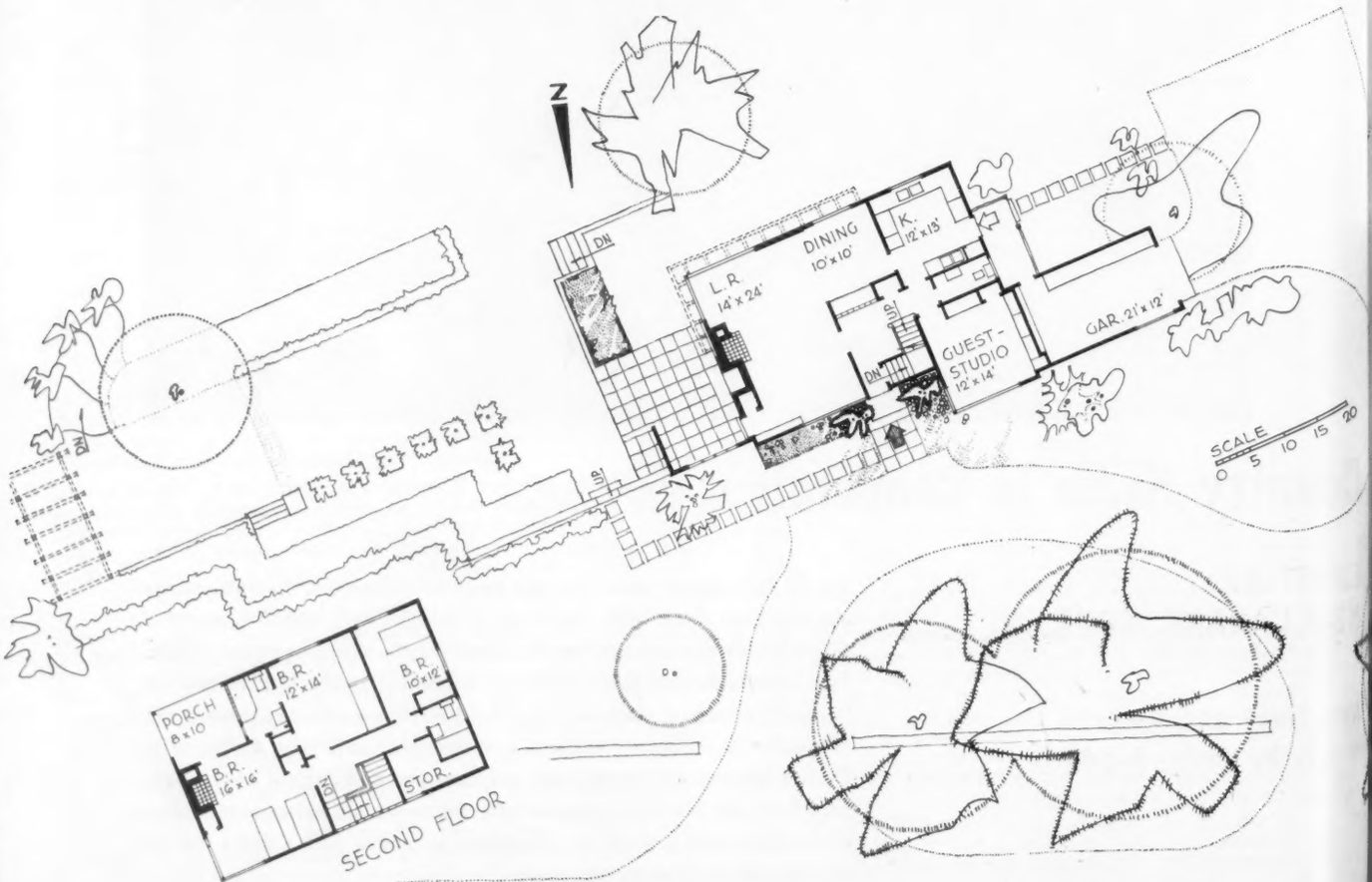
LOCATION:
NEW CANAAN, CONN.

Architect and Owner:
Willis N. Mills, A.I.A.

The old New England house was such excellent architecture, so contemporary and functional (of its time) that hero worshippers have tended to accord it not only the veneration due a worthy ancestor but a sort of excessive acclaim that attempts to name it the ultimate in residential architecture. Happily, an increasing number of designers recognize that family needs have changed and new materials, structural systems, and equipment have been developed in the last century; as a result, more and more new New England houses have been built that are both congenial with the region and suited to the tastes of twentieth-century livers. It is agreeable to publish such a house that an architect designed for his own family.

The garden front of the house

Willis Nathaniel Mills, A.I.A., Architect



Steel sash open up a corner

The architect (at present with the Marines) planned this country home for himself, his wife, and two children. Located southwest of a bordering road, the property was well aged with fine old trees and stone walls. A somewhat conventional floor plan achieves distinction through free organization of the principal living areas and the introduction of fresh details.

Though the house has a basement, additional storage space is provided on each floor—along one wall of the garage (for tools and garden equipment) and in a separate room on the second floor. The living porch, screened from the road by a partial partition, has a fireplace that is used on cool evenings.

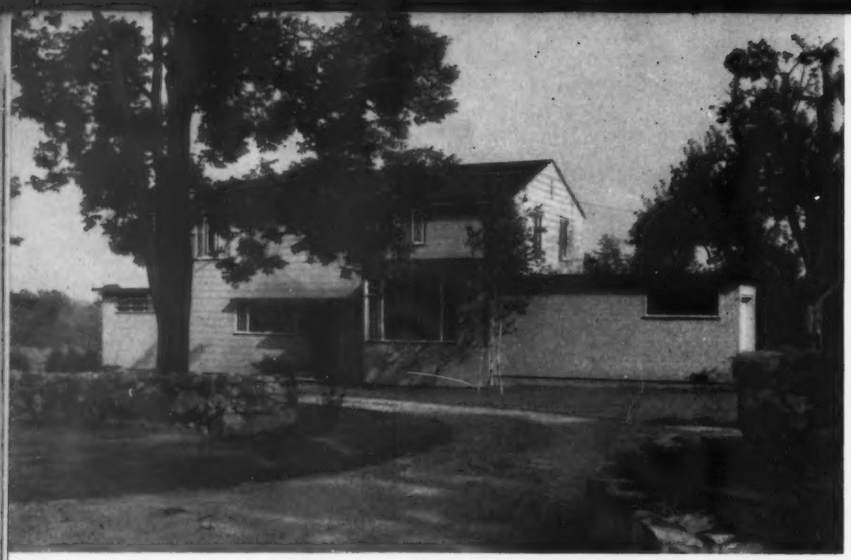
The living porch is enclosed on the north and northeast sides

The architect's studio has a place for everything

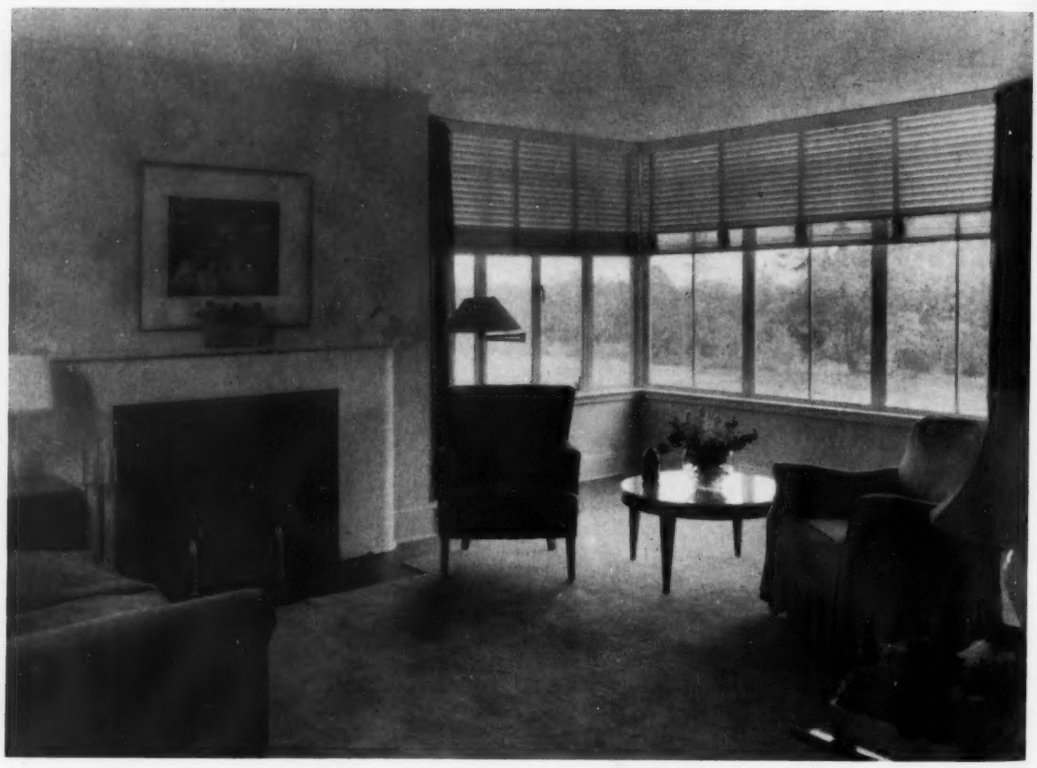
Between the front hall and dining room, a glass-block partition brings light to interior walls of both rooms. In the architect's study, fitted with specially designed cabinets and file space, is a folding couch-bed. As the room is placed immediately beside the downstairs lavatory, it is readily converted for use as a guest chamber.

Throughout the planning of this house, unusual attention has been given to improved arrangement and location of familiar facilities. A good instance is the placement of laundry equipment on the ground floor at one end of the kitchen alongside a door out to the drying yard—a convenient arrangement of utilities that are too often relegated to the basement for no obvious reason.

Another is the flexible organization of the two bath rooms on the second floor. One, opening off the hall, is accessible from any of the rooms; the other, placed between two bedrooms, may serve as a private bath for one of these rooms or for joint use of both as conditions and convenience suggest.



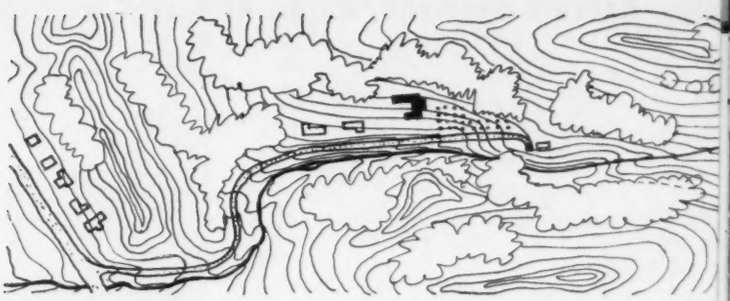
Willis Nathaniel Mills, A.I.A., Architect



The living room has a southeastern garden outlook.

A child's bed and playroom

The house is of frame construction, finished with flush and beaded redwood boarding, painted gray and laid over ¼-in. plywood sheathing. Trim and the steel sash are painted white. Individual black mastic shingles are the roof surfacing. In the main, interior walls are plastered and painted; floors are of oak, except in kitchen and baths, where rubber tile is used. The living porch is surfaced with flagstone.



Plot Plan

Three Levels on a New Jersey Hillside

LOCATION: LAMBERTVILLE, N. J.

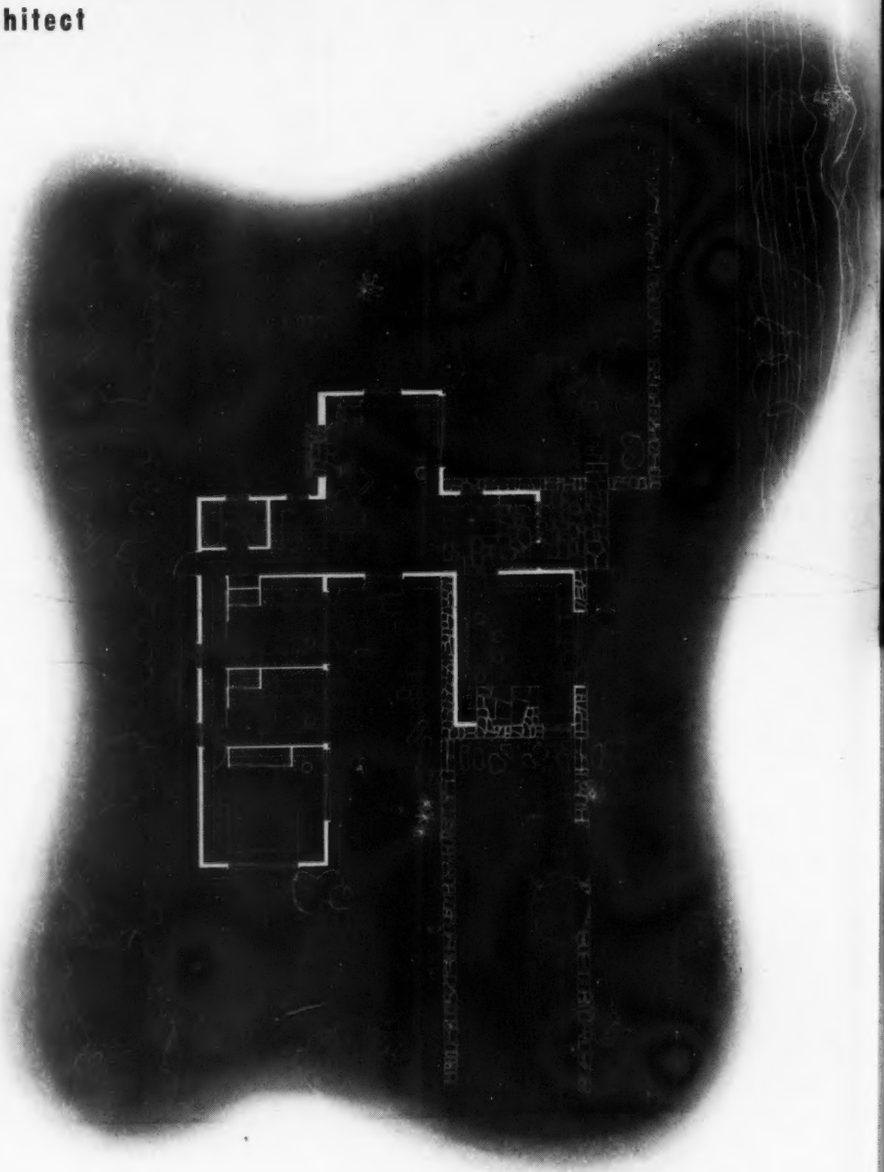
Architect: Antonin Raymond, A.I.A.

Photos by C. V. D. Hubbard

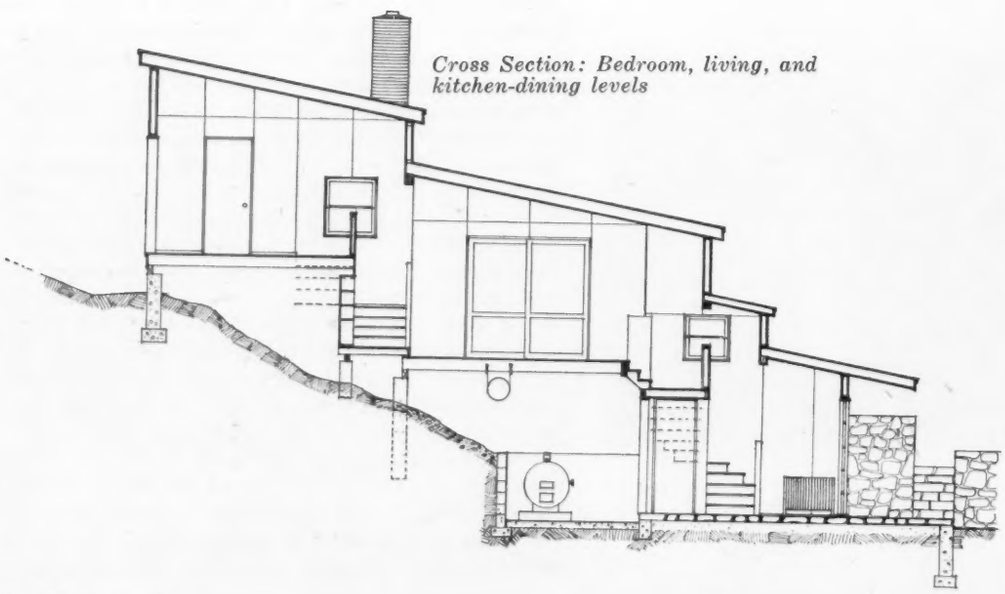
Son Mother Daughter Friends Owner

Antonin Raymond has never been satisfied to design a conventional house. This isn't because he couldn't or because he's ornery, but rather because in approaching a residential planning problem, his prime concern is to develop a home for people; and he has a keen appreciation of the fact that people differ widely and that their interests and needs may be highly individual. He starts, then, scheming a fitting environment for a particular family. Nor does the architect expect or demand a typical site; in fact, he enjoys the challenge of an unusual piece of ground, if it would be an agreeable spot on which to live. So, free from preconceptions of what a house must look like or the kind of site on which it must be built, and unlimited by any fixation on an architectural style or contemporary fad, he goes to work to fit his fitting house upon a fitting site. When it comes to structure and selection of materials, again he is objective, asking what he wants to do and how best to accomplish it—not what is the "accepted" method. He looks around the contemporary world to see what new things are available that will do the old familiar jobs as well or better than could be done with yesterday's methods, what materials will require less installation time, what things will cost less and still do the job well. With this type of realistic approach, little wonder that Raymond's work is never trite and frequently constitutes a brilliant entry in the record of good architecture.

Antonin Raymond, A.I.A., Architect



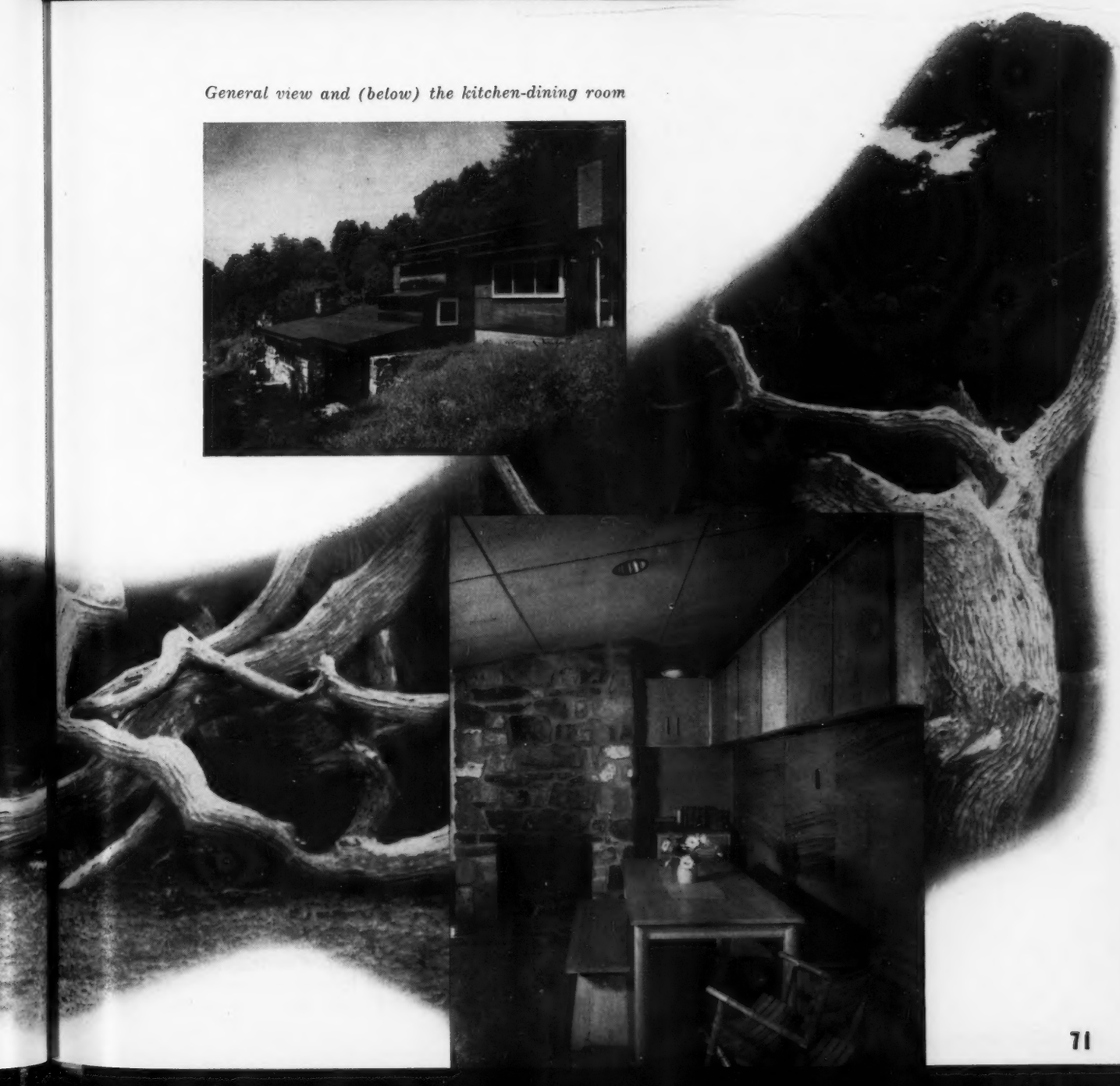
Future extensions can be added at any level.



Cross Section: Bedroom, living, and kitchen-dining levels

Masonry from an old house built the walls of the first level.

General view and (below) the kitchen-dining room

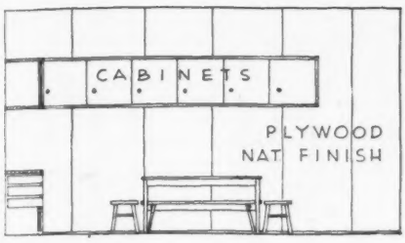


Plywood is the finish material inside and out

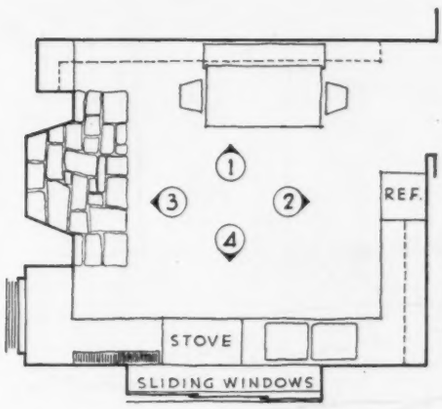
The house shown here, built for Lewis Stone, a painter of abstractions, his wife, and two children, looks exactly like what it is—a plain country home, inexpensively built of simple materials. Since, in addition, it seems to be an excellent fit for the family for which it was made, it appeals to us as first-rate architecture. Furthermore, it has genuine style, with today's imprint.

Mr. Stone does his painting in a studio up at the head of a little valley leading away from the Delaware River. The house is on the hillside a few hundred feet below. An old, one-room stone house existed on the site, and the Stones hoped to preserve this. Ultimately little more than the foundations were usable, but it determined the location of the kitchen-dining room unit by the side of the road. From this, the house rises up the hill.

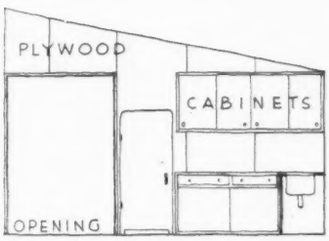
The main features of the house are the maximum sunshine, cross ventilation, and view from every room. A sense of great spaciousness derives from the possibility of walking out into a garden from each level. Construction of frame and use of plywood contributed to the low cost. The home is heated by a hot-water system, with the furnace room located under the living room.



WALL 1



PLAN SCALE ⅛" = 1'-0"

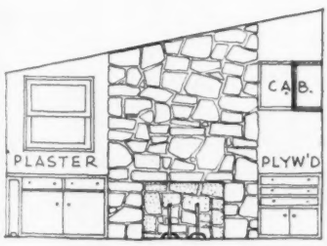


WALL 2

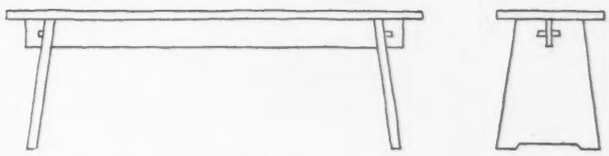
FLOOR • PRESSED COMPOSITION BOARD TILE · 12" SQ.
CEILING • ¾" INSULATION BOARD AND 4" LOOSE WOOL

PLAN FRONT SIDE

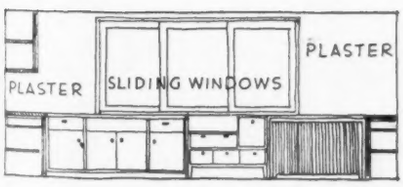
STOOL



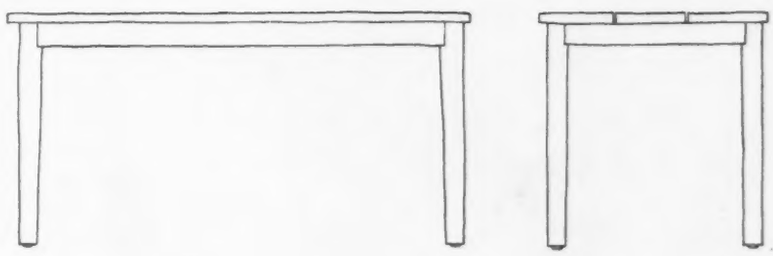
WALL 3



BENCH



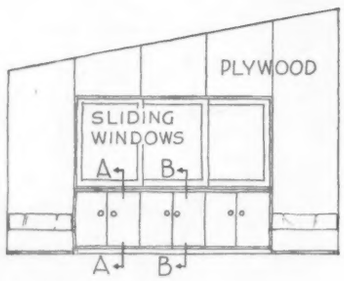
WALL 4 SCALE ⅛" = 1'-0"



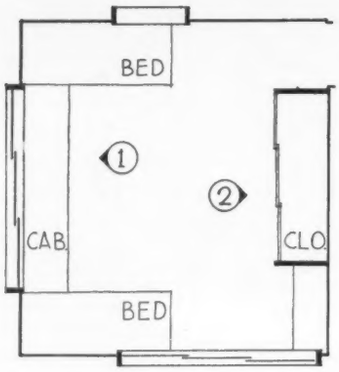
SCALE ½" = 1'-0" TABLE

FURNITURE • WHITE OAK TOPS · RED OAK LEGS

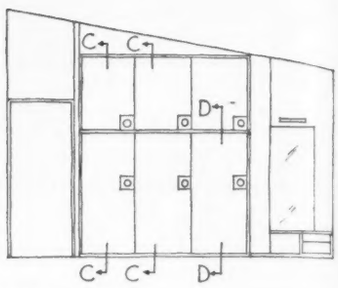
Master Bedroom, Hillside House,
Antonin Raymond, A. I. A., Architect



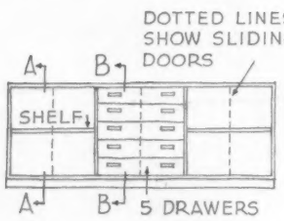
WALL 1



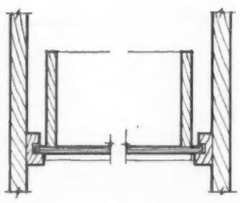
PLAN
SCALE · 1/8" = 1'-0"



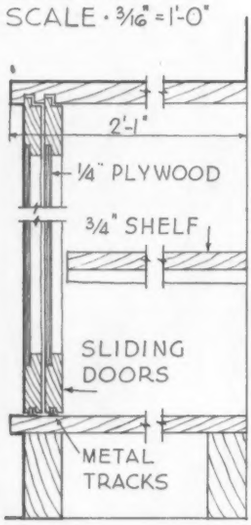
WALL 2



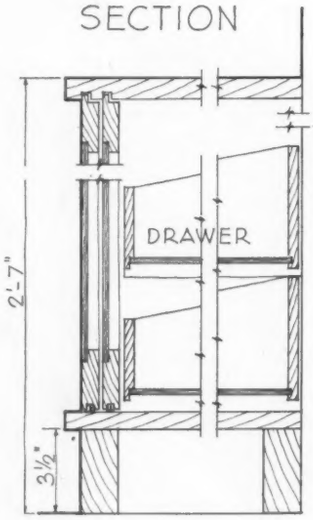
ELEV. OF CABINETS
SCALE · 3/16" = 1'-0"



DRAWER SECTION



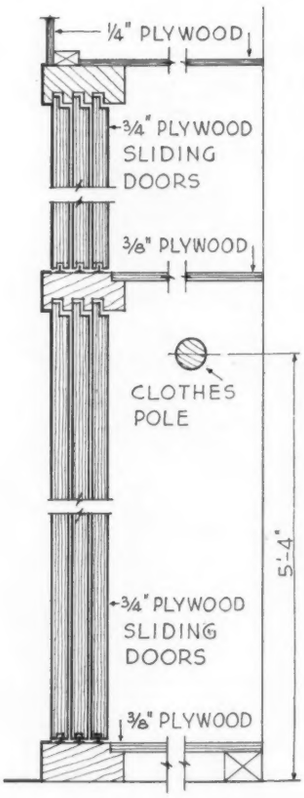
A-A



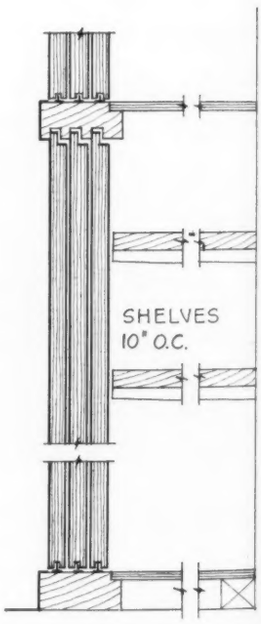
B-B

CABINET DETAILS

SCALE · 1 1/2" = 1'-0"



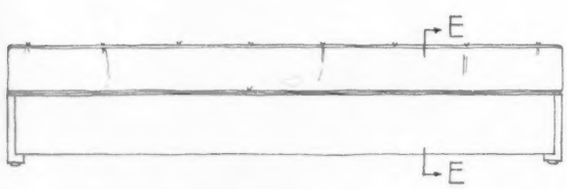
C-C



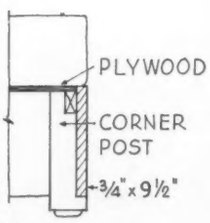
D-D

CLOSET DETAILS

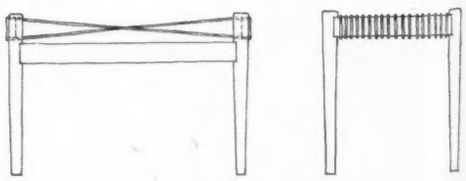
SCALE · 1 1/2" = 1'-0"



BED SCALE · 3/8" = 1'-0"



SECT. E-E
SCALE · 3/4" = 1'-0"



STOOL
SCALE · 3/8" = 1'-0"

FURNITURE

WAINSCOTING,* Standard Solid Hardwood

BUILDING PRODUCT FACTS by Don Graf
PENCIL POINTS MAY 1944 • Serial No. 2

DESCRIPTION — Standard solid hardwood wainscoting consists of 10 profiles, manufactured in accordance with Bureau of Standards "Commercial Standard CS74-39*," from which a wide variety of wall treatments may be derived. These items are made from the following species of wood:

Alder	Elm	Oak, red
Ash	Gum, black	Oak, white
Aspen	Gum, red	Pecan
Beech	Gum, sap	Poplar
Birch	Hackberry	Sycamore
Buckeye	Hickory	Tupelo
Butternut	Magnolia	Walnut
Cherry	Mahogany	Willow
Chestnut	Maple	

The material is kiln dried† according to accepted methods for the species in question, to a proper and uniform moisture content before it is machined, and thereafter it is wrapped and packaged to prevent moisture absorption and other damage.

2 TYPES—Solid hardwood wall wainscoting and trim is classified according to the appearance of the face side, as either "character marked" or "conventional."

Character marked—This classification covers material in which the surface displays various character markings inherent in the tree. These markings include knots, worm holes, worm grooves, burls, grain irregularities; stain, spots, mineral streaks, and other color variations occurring in the growth of the wood. The wood is free of rot and decay.

Conventional—This classification covers material in which the surface displays variations in color due to the growth of the wood, together with natural configurations. Knots over ⅛" in diameter, worm holes and grub holes are not permitted in this classification.

LENGTHS—Shapes 1, 2, 3, and 4, comprising the boarding and the moldings to be used with the boarding, are available in exact lengths for vertical application to meet most wainscot and ceiling heights without cutting.

Boarding and Moldings Nos. 1 to 4 Inclusive in Exact Lengths	*Boarding and Moldings Nos. 1 to 4 Inclusive in Random Lengths*
2'-6"	2'-0" plus, to average 6'-0" minimum
5'-6"	
6'-0"	
6'-6"	*Trim Nos. 5 to 10 Inclusive in Random Lengths*
7'-8"	
8'-2"	
8'-8"	6'-0" plus, to average 8'-0" minimum

INSTALLATION—Overpage is shown full size sections together with details and an elevation suggesting a few of the many possible treatments which can be obtained from the 10 standard profiles. For vertical installation of the boarding either horizontal furring strips must be applied, or headers must be cut in between the studs for nailing. Applied against outside walls the studding should be plastered or a good quality building paper should be applied behind the boarding. The use of plaster behind the boarding cuts down air infiltration. The use of a saturated or laminated building paper reduces air infiltration and also offers protection to the wood from moisture.

Boarding may be obtained either end-matched or square-ended. The use of end-matched boarding in horizontal application makes it unnecessary for end joints to fall on studs. Splines are used to join the base and first course in horizontal designs.

The reverse face of the boarding may be flat-back, kerfed, or hollow-back, at the discretion of the manufacturer, for the reason that properties peculiar to each species of hardwood make the same treatment of all inadvisable or unnecessary.

FINISHING—Before erecting, all boarding and moldings must be back-painted with white lead in oil or a good wood sealer. If the final face finish is to be paint or enamel, the wainscoting should be primed in the finish color on all sides and edges including the face side of the tongues.

The staining of wainscoting to be finished in natural grain effects should follow the priming of the back as soon as the prime coat has dried. It is important that the face side of the tongues and the groove edges of the boards also be stained. The staining should be done before the wainscoting is erected. The final finish may consist of shellac and wax, lacquer and wax, varnish or other finishes, properly rubbed between coats.

REFERENCES — A.I.A. lists neither paneling nor wood wainscots in the alphabetical index to the Standard Filing System.

Solid Hardwood Wall Paneling, Commercial Standard

MANUFACTURERS—Following is a partial list of manufacturers who normally mill hardwood wainscoting which conforms to Bureau of Standards "Commercial Standard CS74-39." The omission of any manufacturer from this list emphatically is not to be construed as an indication that his product in any way lacks merit.

Augusta Hardwood Company	Augusta, Georgia
Chapman and Dewey Lumber Company	Memphis, Tennessee
Cherry River Boom and Lumber Co.	Philadelphia, Pennsylvania
Crossett Lumber Company	Crossett, Arkansas
Fordyce Lumber Company	Fordyce, Arkansas
Frost Lumber Industries, Inc.	Shreveport, Louisiana
Georgia Hardwood Lumber Company	Augusta, Georgia
Holly Hill Lumber Company, Inc.	Holly Hill, South Carolina
Korn Industries, Inc.	Sumter, South Carolina
The Mengel Company	Louisville, Kentucky
R. C. Owen Company	Hopkinsville, Kentucky
Southern Lumber Company	Warren, Arkansas
James E. Stark Company	Memphis, Tennessee
J. E. Stone Lumber Company	Nacogdoches, Texas

TRADE ASSOCIATION—Hardwood Dimension Manufacturers Association, Heyburn Building, Louisville, Kentucky, Louis J. Bosse, Secretary.

LOCAL SOURCE OF SUPPLY—*Fill in the blank spaces provided below with the names of your local source of supply for this product so that the next time you wish to use it in design or specs you will know where to obtain it quickly.*

Product_____
Local Agency_____
Representative_____
Address_____
Telephone_____

Product_____
Local Agency_____
Representative_____
Address_____
Telephone_____

Product_____
Local Agency_____
Representative_____
Address_____
Telephone_____

*ACCURATE TERMINOLOGY—Commercial Standard CS74-39 promulgated by National Bureau of Standards in cooperation with manufacturers, incorrectly refer to this product as solid hardwood wall "paneling." This material is not *paneling*, it is *wainscoting*.

Paneling is one or a series of surfaces, each surrounded and held as in a frame, and distinguished from the enframement by a difference in planes, materials, colors, textures, or by moldings, or by some other means.

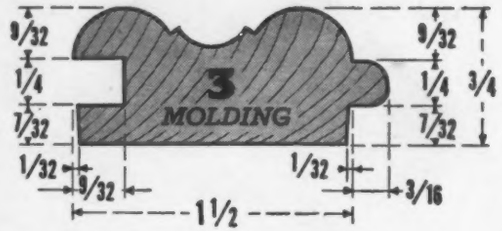
Wainscoting is a lining of any height of an interior wall, consisting of any special material; as a wood wainscot, a tile wainscot, a Keene's cement plaster wainscot, etc.

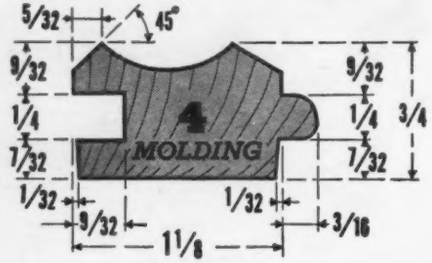
Dadoing is relatively low wainscoting and is derived from the word die which is the pedestal of a column.

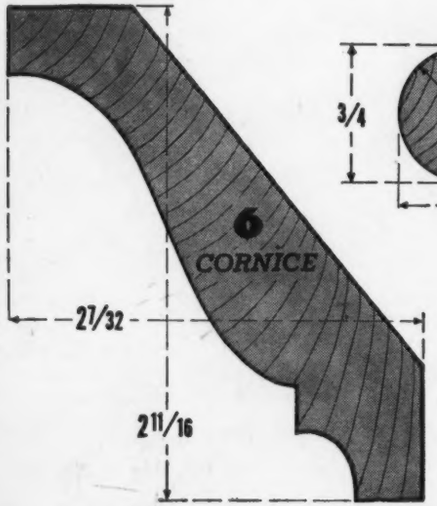
†KILN DRIED—dried by artificial heat to a moisture content which is less than can normally be obtained through the natural process commonly known as air seasoning. Moisture content is expressed

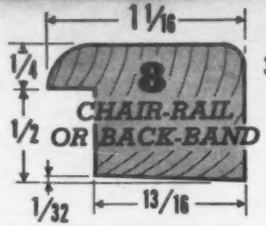
These data represent accepted practice in manufacture but do not necessarily mean that such products are currently available for civilian use.

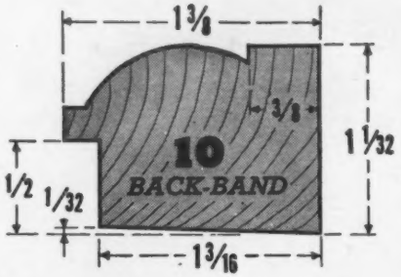
WAINSCOTING, Standard Solid Hardwood, Cont.

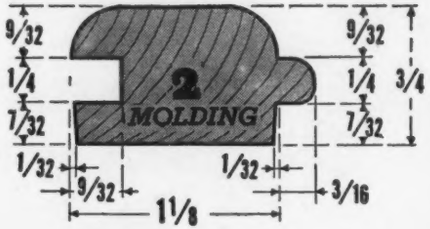


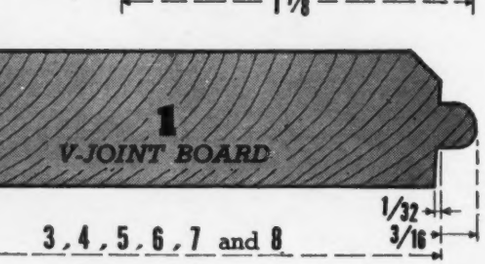


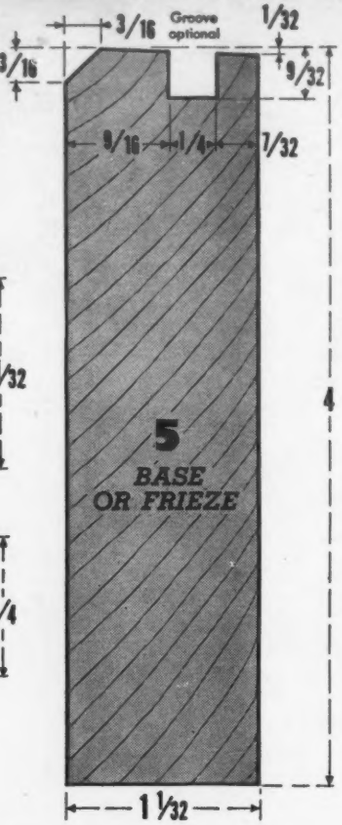


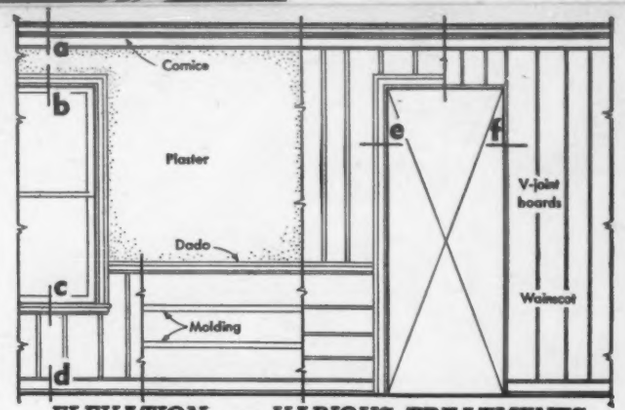




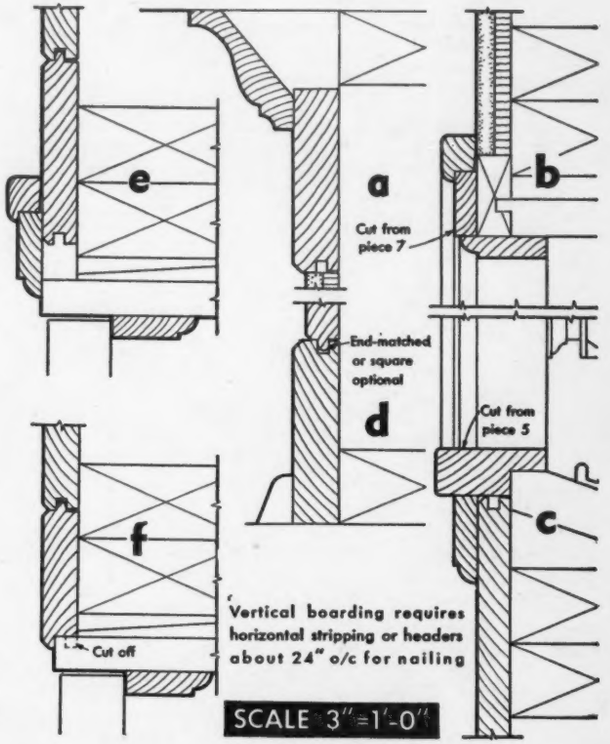








ELEVATION — VARIOUS TREATMENTS



DETAILS

SHEATHING, Structural Fiber Insulating Board, Cont.

STRENGTH—All tests of fiberboard sheathing listed in the bibliography are incomplete, impractical, and inconclusive in arriving at any data which would make direct strength comparisons possible with completed walls utilizing either horizontal or diagonal wood sheathing. *However, from multitudes of actual installations it is unquestionably evident that fiberboard sheathing contributes adequate strength to a complete and properly constructed frame wall.* One manufacturer states that the 4' width of 25/32" fiberboard sheathing applied vertically has strength comparable to that contributed by diagonal wood sheathing; horizontally applied it compares with horizontal wood sheathing. Under accelerated aging tests conducted by the B. of S., the samples showed "excellent stability" of all their critical properties.

USES—Fiberboard sheathing is used as structural insulating wall sheathing under siding, shingles, stucco, masonry veneer. It is also used as roof sheathing on pitched roofs with wood stripping or solid wood sheathing under various types of roofing. The square-edged sheathing 4' wide has been found suitable for the exterior of temporary structures. It can be painted with aluminum paint or other paint suitable for use over asphalt to reduce absorption of solar heat.

THERMAL PROPERTIES—The average thermal values for this material are as follows:

Thermal conductivity		k = .324
Thermal conductance	C for ½"	= .648
Thermal conductance	C for 25/32"	= .415

COST—The cost of 25/32" insulating board sheathing per M square feet is normally higher than the same coverage of wood sheathing. The application cost is usually somewhat lower, making the cost in place about the same or slightly higher than wood sheathing.

An average applied cost of ½" sheathing would be from 7 to 10 cents per square foot. An average applied cost of 25/32" sheathing would be from 9 to 12 cents per square foot.

SOURCES OF SUPPLY—The omission of any product from this list is emphatically not to be construed as an indication that it in any way lacks merit. Products listed conform to Federal Specification LLL-F-321b including Amendment 1, which sets forth requirements for the material and methods of testing.

REFERENCES

Federal Specification LLL-F-321b including Amendment 1, for Fiberboard; Insulating, Superintendent of Documents.

Commercial Standard CS42-43, U. S. Department of Commerce.

Rigidity and Strength of Frame Walls Sheathed with Fiberboard, by George E. Heck, Forest Products Laboratory, Madison, Wisc.

Stability of Fiber Sheathing Boards as Determined by Accelerated Age, by Jessup, Weber and Weissberg, Building Materials and Structures Report BMS 69, National Bureau of Standards.

Properties of Some Fiber Boards of Current Manufacture, by Weber and Weissberg, Building Materials and Structures Report BMS 13, National Bureau of Standards.

Structural Properties of Wood Frame Wall and Partition Constructions with "Celotex" Insulating Boards, by Whittemore and Stang, Building Materials and Structures Report BMS 42, National Bureau of Standards.

Structural Properties of "Insulite" Wall and Partition Constructions, by Whittemore and Stang, Building Materials and Structures Report BMS 31, National Bureau of Standards.

A.I.A. material filed under index 19D3, 37A1 or 37B4.

TRADE ASSOCIATION—Insulating Board Institute, Paul D. Close, Technical Secretary, 111 West Washington St., Chicago.

Manufacturer	*Product Name*	*Square Edge 4 Sides 4'-0" Wide* ½" thick						25/32" thick						***Fab. 2 edges 2'-0" wide 25/32" thick 8'-0"*
	Length→	8	8½	9	9½	10	12	7	8	8½	9	9½	10	12	
†ARMSTRONG CORK CO., Lancaster, Pa.	***Temseal Insulating Sh'g.								x		x		x		x
†CELOTEX CO., 120 So. LaSalle St., Chicago	(25/32") Vapor-Seal Insltng. Sh'g. (½") ½" Asphalted Ins. Sh'g.	x	x	x	x	x	x		x	x	x	x	x	x	x
†FLINTKOTE CO., 50 W. 50th St., New York	Asphalt Sealed Sheathing								x	x	x	x	x	x	x
INSULITE 500 Baker Arcade, Minneapolis	Bildrite Sheathing								x	x	x	x	x	x	x
†JOHNS-MANVILLE SALES CO., 22 E. 40th St., New York	Weathertite Sheathing	x							x	x	x	x	x	x	x
†MASONITE CORP. 111 W. Washington St., Chicago	(25/32") Dubblseal Sheathing (½") Asphalt Sheathing	x	x	x	x	x	x		x	x	x	x	x	x	x
†NATIONAL GYPSUM CO., 325 Delaware Ave., Buffalo	††Gold Bond Fiber Ins. Sh'g.								x	x	x	x	x	x	x
†U. S. GYPSUM CO., 300 W. Adams St., Chicago	Weatherwood Asphalt Coated Sheathing	x		x		x	x		x		x		x	x	x
†WOOD CONVERSION CO., 1st Natl. Bank Bldg., St. Paul	Nu-Wood Insulating Sh'g.	x		x		x		*	*	*	*	*	*	*	x

† Listed as Acceptors of "Commercial Standard CS-42-43."
** Long edges T & G, Shiplapped, or V-grooved. Two ft. width may be overall or coverage dimension.
*** Covered with Kraft paper over asphalt
* Sizes to be available later
†† One face aluminum painted to be available later

NOTICE—This BPF insert is reprinted from the April issue because of its unsatisfactory mechanical presentation on its original appearance.

SHEATHING, Structural Fiber Insulating Board

DESCRIPTION—Structural Fiber Insulating Boards are made of partially refined vegetable fibers obtained principally from crop plant wastes or wood. The boards are made of fibers from at least 5 quite different raw materials—wood, bagasse (extracted sugar cane), corn stalks, licorice roots, and waste paper. However, the general properties of the finished products from the different sources are essentially the same. The basic materials are reduced to fibers by mechanical means or by exploding them with steam, usually after softening them with chemicals or by steaming them. The boards are fabricated from the pulp by a felting or molding process, suitable sizing material being incorporated in the product to render it water-resistant. The drying temperature is such as to destroy rot-producing fungi.

Sheathing is one of a group of 5 products made by the same process, which are similar in composition and properties:

Class A: Building Board
Class B: Lath (for plaster base)
Class C: Roof-Insulating Board
Class D: Interior Board (factory finished)
Class E: Sheathing

The sheathing boards are given a surface treatment consisting of one or more coatings of asphalt and some manufacturers use additional surfacings consisting of kraft paper, and aluminum paint for reflective insulation.

INSTALLATION—Square-edged 4' wide boards are designed for vertical installation and should be nailed 6" on the intermediate supports and 3" on the four edges, using nails which will insure not less than 1" to 1¼" penetration into the wood support.

The 2' wide boards are designed for horizontal installations, the fabricated long edges eliminating the need for headers behind horizontal joints. Boards should be nailed to supports 4½" o/c using nails which provide a penetration of 1" to 1¼". At the sill, plate, and girts the horizontal edge should be nailed 3" o/c.

Since the maximum coefficient of expansion is ½ of 1% it is necessary to allow ⅛" joints between boards.

Building paper is not required except under exterior stucco although the FHA may require it in some sections.

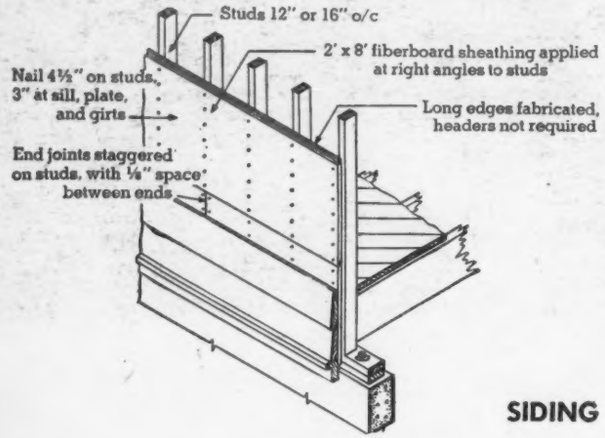
Wood siding is applied directly over the sheathing and is nailed to the wood framing.

Shingles are applied to horizontal wood strips over sheathing.

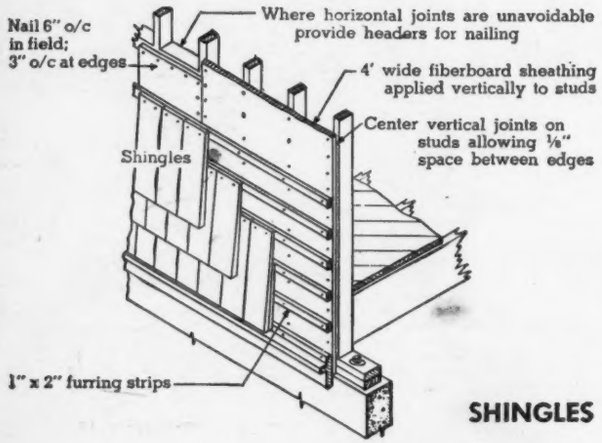
Stucco is applied over layer of asphalt saturated felt.

Masonry veneer ties are fastened at framing members.

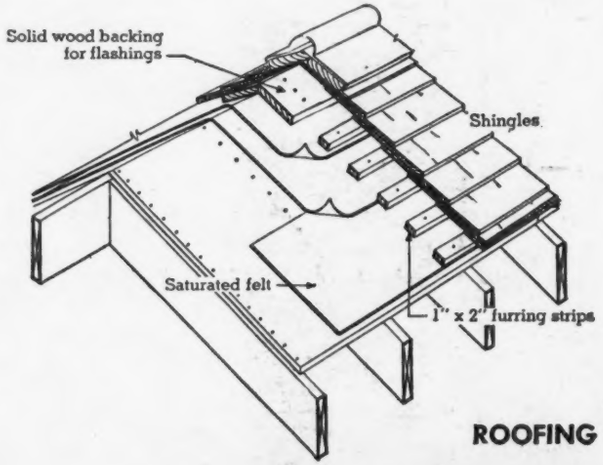
Roof sheathing is applied the same as wall sheathing. Over the sheathing an asphalt saturated felt should be applied. Shingle, slate, or tile, are applied to furring strips over the felt. Wherever flashing occurs a 25/32" solid wood base must be provided for the fastening of gutter aprons, valleys, hips, ridges, saddles, etc.


Studs 12" or 16" o/c
2' x 8' fiberboard sheathing applied at right angles to studs
Nail 4½" on studs, 3" at sill, plate, and girts
Long edges fabricated, headers not required
End joints staggered on studs, with ⅛" space between ends

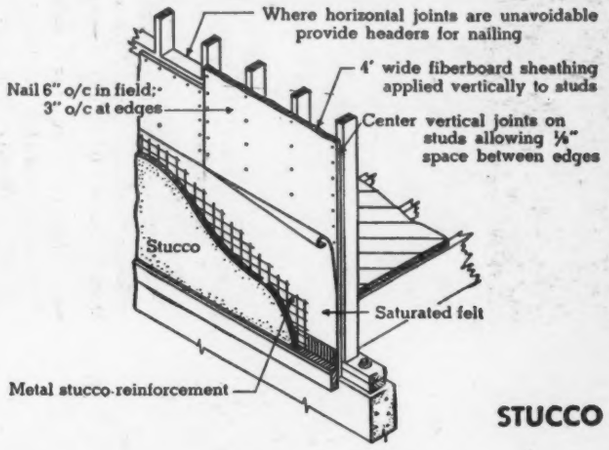
SIDING


Nail 6" o/c in field; 3" o/c at edges
Where horizontal joints are unavoidable provide headers for nailing
4' wide fiberboard sheathing applied vertically to studs
Center vertical joints on studs allowing ⅛" space between edges
Shingles
1" x 2" furring strips

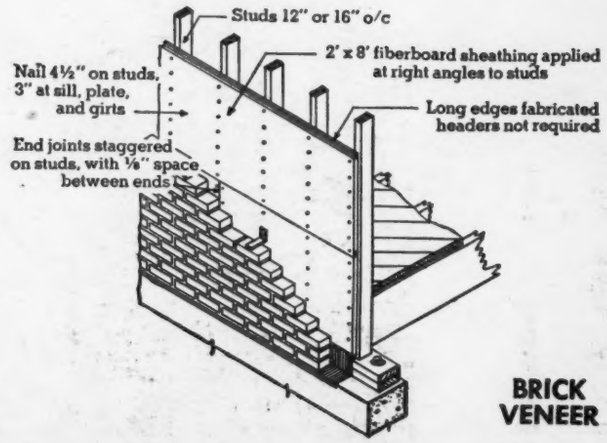
SHINGLES



ROOFING


Where horizontal joints are unavoidable provide headers for nailing
Nail 6" o/c in field; 3" o/c at edges
4' wide fiberboard sheathing applied vertically to studs
Center vertical joints on studs allowing ⅛" space between edges
Stucco
Saturated felt
Metal stucco reinforcement

STUCCO


Studs 12" or 16" o/c
2' x 8' fiberboard sheathing applied at right angles to studs
Nail 4½" on studs, 3" at sill, plate, and girts
Long edges fabricated headers not required
End joints staggered on studs, with ⅛" space between ends

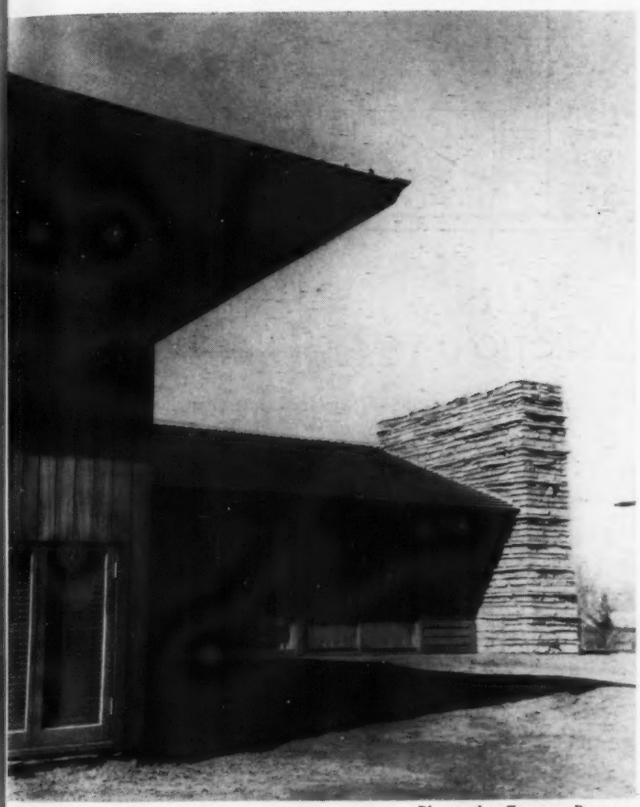
BRICK VENEER

BUILDING PRODUCT FACTS

An Architect's Home

LOCATION: NORMAN, OKLA.

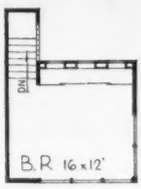
Architect: Henry L. Kamphoefner, A.I.A.



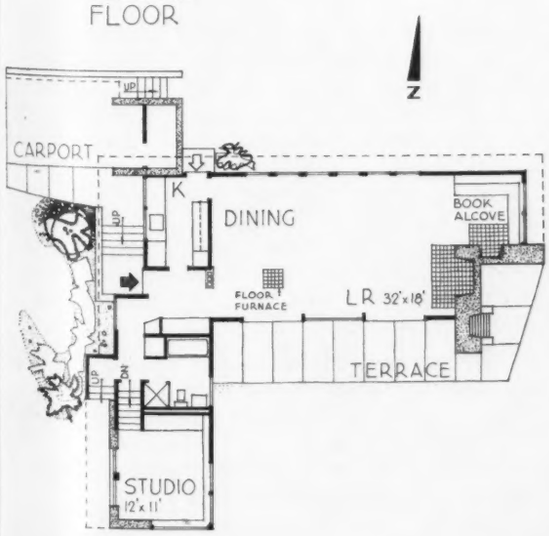
Photos by Truman Pouncey

It is encouraging to publish an example of contemporary residential architecture from a State so infrequently represented in the architectural press. That the architect and owner is also Professor of Architecture at the State University is reason to hope for more frequent opportunities in the future.

Are Oklahoma clients more than others fond of "stylish" architecture? Or are Oklahoma architects less interested than their brethren elsewhere in regional architectural development of a contemporary character? Frankly, we don't know why the situation seems to exist—but we're willing to be told.



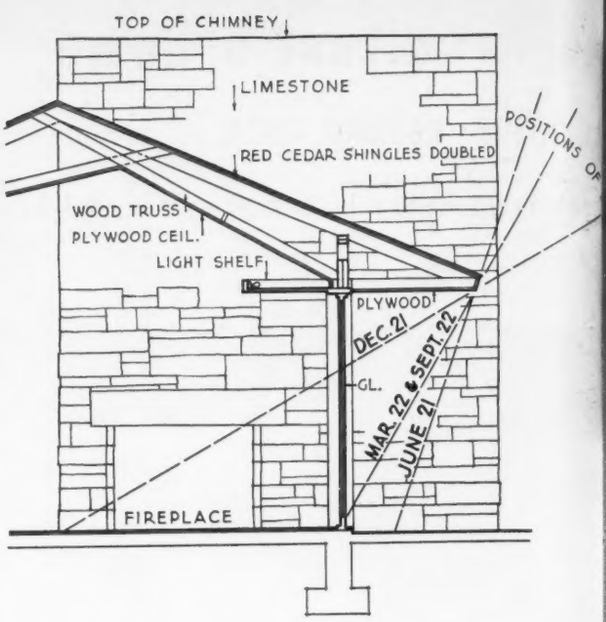
SECOND FLOOR



FIRST FLOOR

SCALE 0 5 10 15 20

Sun control is handled by broad roof projections.



Composite of plywood, native stone, and a window wall

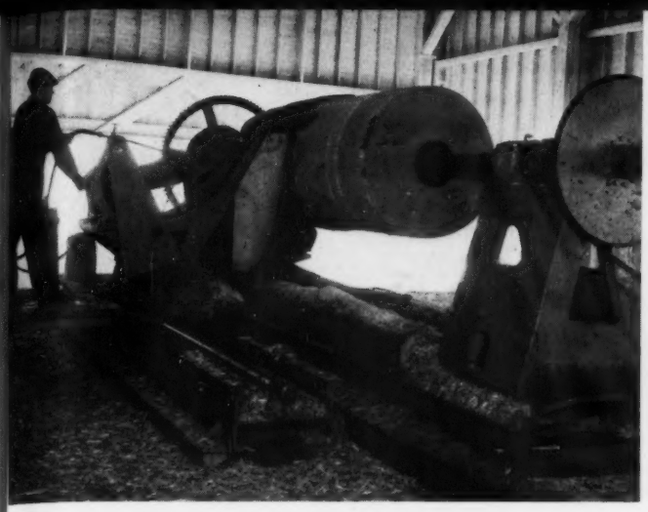
Henry L. Kamphoefner, A.I.A., Architect

The carport

A screen of ivy containers shields the front door.

Organization of the plan is extremely simple, in the form of an L. The longer leg is essentially a general living area, with a book alcove added at one end and the kitchen and entrance area screened off at the other. In the shorter leg, a two-floor scheme is used—half a flight down to a studio, half a flight up to a bedroom. For so small an area as the alcove, introduction of a second fireplace seems a bit whimsical. But if it serves the owner's pleasure, it calls for no other defense. On the exterior, in combination with a third—outdoor—fireplace, the chimneys join to form a strong re-entrant angle built of local stone.

Careful thought was given to the sun's habits in this region, and roof overhangs were designed to keep it under advantageous control. There is a refreshing frankness in the handling of materials—whether stone, V-joint redwood boarding, or the plywood used extensively for interior finishes and cabinetwork.



Basic processing begins with removal of bark from log sections . . .

Plywood's Future Has Just Begun

BY LAWRENCE OTTINGER

President, United States Plywood Corporation

. . . peeling veneers from the log by one of several lathe methods . . .

We started out to design a powder box and ended by building a barrack.

That experience, one of the many little jokes hurry-up research has played on us during the past two years, epitomizes to me the scope of opportunity spreading before plastic plywood in the postwar era. Fully recognizing the rapid strides it has made in recent years, its quick response to the emergency summons of war, and the developments now forming in the hands of technicians, I am convinced that plastic plywood is yet an unexplored field; that it is not yet approaching the threshold of its ultimate usefulness.

We hear about plywood bath tubs; one-piece, featherlight, molded automobile bodies, propelled by new, higher-test fuel and smaller motors at a third of our present cost per mile; low-cost, private flivver 'planes of plastic plywood; indestructible furniture, and factory-built homes with movable walls. These things are belittled by some, called surrealist nightmares by others, and scoffed by many professional technicians. My war industry experiences leave me ingenuous enough to believe that these glowing advertisements merely hint at what lies ahead.

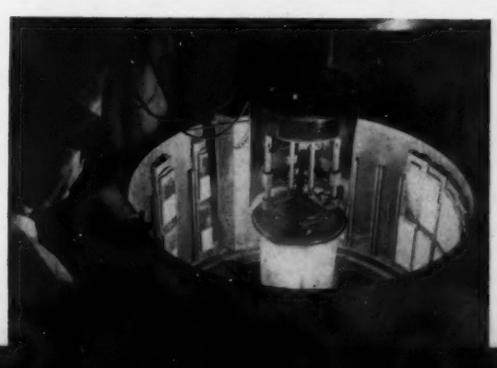
Plywood in its simplest terms is man's method of developing the full strength of wood as it grows in the living tree. Again in simple terms, that is accomplished by crossing the grain of adjacent laminations of various types of wood—three-ply, five-ply, seven, nine, eleven, and up, thus combining the characteristics of the long grain with those of the short grain. These laminations are irrevocably welded under high pressure by a bonding agent.

The heart of plywood is, of course, the bonding agent. I call it a bonding agent rather than an adhesive, because plastic binders really are not adhesives; they do not work as adhesives. When plywood was first made (and that goes back at least to the days of Tutankh-Amen, as a great many pieces of furniture taken from Tut's tomb were of laminated wood) the bonding agent was what is known as hide or animal glue.

Animal or hide glue was used for quite a while until a man by the name of Perkins developed, through the use of cassava flour, and a small amount of caustic soda, an excellent adhesive called a vegetable glue; and that was used and still is being used on millions of feet of plywood. Silicate of soda, which is the cheapest thing, is employed on box plywood. During the last war, we went into caseins and blood—slaughterhouse blood—for adhesives. Both make highly water-resistant plywood, but both are subject to bacterial deterioration, and, therefore, neither will make a plywood that can be used indefinitely out-of-doors, or on boats or airplanes, because, no matter how well they are protected with a coating, condensation occurs inside and causes rotting. They do not stand up.

There followed the discovery of phenol and formaldehyde, which, under pressure, became Bakelite. Then we

. . . . and exacting tests against performance standards.



began to make plywood in hot plate presses, using phenol formaldehyde as a binder; and when we did that we had a combination of plastics and veneers which could not be separated under any circumstances short of complete destruction under fire. And even in the case of fire the phenol formaldehyde plywood burns as a whole; it doesn't separate into its various veneers.

Lignin is a very promising plastic, being plentiful and cheap, but it cannot be used as a binding agent between veneers, because it requires too high a temperature. It can, however, be used as an extender for the phenolics up to 35 percent even without increase of heat, and the result seems to be pretty much the same as when phenolics are used alone. At present, lignin may not be used beyond that point, but it will ultimately be modified and will be much more useful.

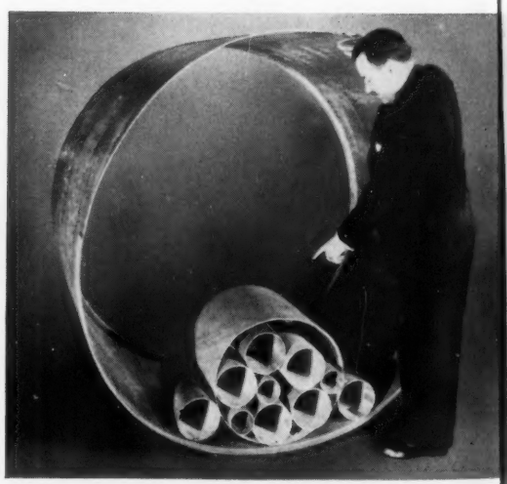
The plastics are not used only as bonding agents for plywood; they are used as impregnants for various purposes and reasons. One purpose is to increase the hardness of the wood so that it will stand abrasion. That is nicely illustrated in the pontons used by the Army. The outer two layers are birch impregnated with phenol formaldehyde and molded in one piece. These boats are 18 feet long, 6½ feet in beam, and 3½ feet deep.

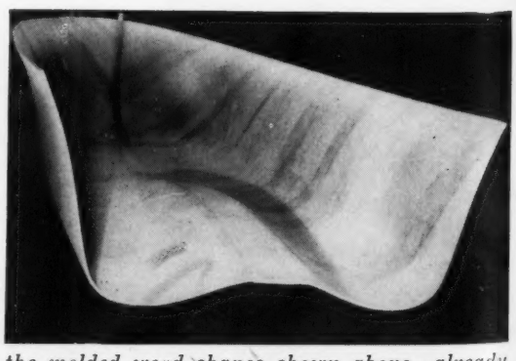
Another function performed by plastics of a certain kind is that they serve as a plasticizer. A plasticizer is something that makes a material soft enough to be shoved into a mold or bent around a compound curvature. That usually applies to the plastics when they are heated; then they harden. That has enabled us to make things of wood that couldn't be made without a plastic that would also act as a plasticizer. When we refer to a plasticizer of wood, what we mean is that the substance softens the lignin which holds the cellulose fibers together, thus making it possible to do things with the wood which otherwise could not be done. When the heat is removed from the wood, and possibly some chemical treatment applied, the wood is brought back to all its former strength, and very often that strength is greatly increased.

Another use for plastics is in binding metal to wood and that has developed very importantly. One of our engineers developed a powder box using .008 stainless steel bonded to plywood. Thus he produced a box that was a third smaller, a third lighter, and about ten times as strong as the box that had previously been in use. We make the parts and the box makers make the boxes. Our first order for parts amounted to five-and-a-half millions of dollars. That order saved 17,500,000 pounds of copper, 750,000 pounds of tin, and it is saving, monthly, some four or five hundred thousands of dollars for the government in transportation alone, to say nothing of storage space.

Now we have found a plastic to do the job of bonding metal to wood. Of course, it may not sound like much of a trick but, when you bear in mind that those boxes are used out-of-doors where they may be hit by the sun (and in the tropics the sun may raise the temperature to 140 or 150 degrees Fahrenheit), and when you keep in mind further that metal expands under heat while wood contracts, you can appreciate that the bonding agent has to be elastic. Nothing will stand that stress but a bonding agent that will expand and contract enough to take up the differential coefficient of expansion between the metal and the wood.

We did use a combination of latex and casein, but we have developed a thermoplastic of the Vinyl and Butyl types, which has elasticity, for this sort of job. This type of plastic is not like a phenol formaldehyde or urea formaldehyde, because those, when polymerized, are very hard and very stiff.



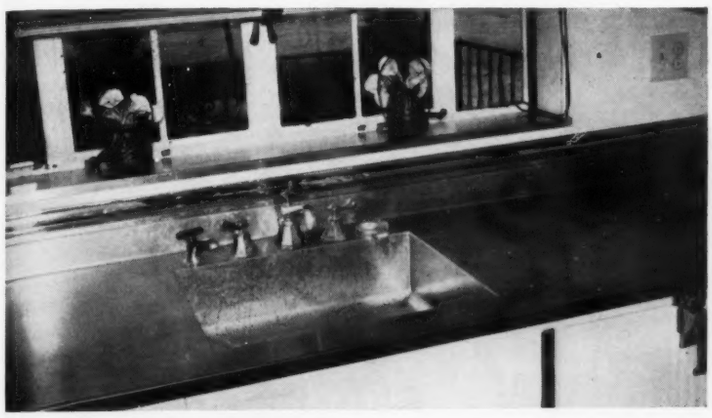


Implicit in the molded wood shapes shown above—already in use in other fields—is a whole array of potential new architectural applications and forms. Seamless tubings in a wide range of diameters suggest log, column, or pipe forms, perhaps revolving closet units, or even circular room enclosures. The gunner's and crewman's seats (at top), formed of compound shapes and reinforced where needed, have obvious implications for furniture, cabinetwork, etc.; with compound shapes such as the single-piece boat hull, the designer employing free forms may enjoy yet further freedom.

As a result of the work on that powder box, we made a stainless steel sink of conventional size by superimposing stainless steel of about 28 gauge on birch plywood. The resultant product is something that will stand impact, which is free from denting, and much lighter than the heavy utensil heretofore made. And the cost difference is enormous! This sink can be made for 40 percent or less of the cost of a conventional stainless steel sink.

We can go even further with a drainboard. We can make a drainboard at 20 to 30 percent of the cost of one made of heavy gauge stainless steel.

This development would seem to bring stainless steel

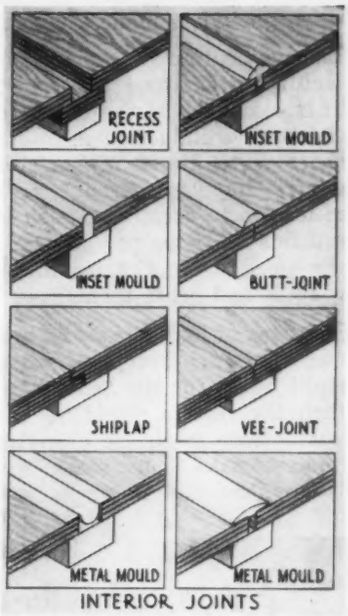


within the reach of the lower and moderate priced homes.

Then we went a little further, this time into the field of prefabrication. We built a two-car garage, 20 feet square with a peaked roof, and we can ship that garage in a space 2x2x10 feet. The wood is routed out in back. When the building is put up, the sections join and the metal is folded over. We have new ways of doing that and the sections are rapidly assembled. We can prefinish and make a house section or a section that is all prefinished, either prefabricated in a factory or fabricated on the job.

Then we built a barrack. That is the interesting thing to me: we started out by building a powder box and we end by building a barrack!

Paper has tremendous possibilities in combination with plastics. Paper has a great affinity for resins and many things can be done with it. The increase of strength of a single piece of veneer with paper on both sides is tremendous. I rather feel that the automobile body of the future is likely to have a lot of impregnated paper



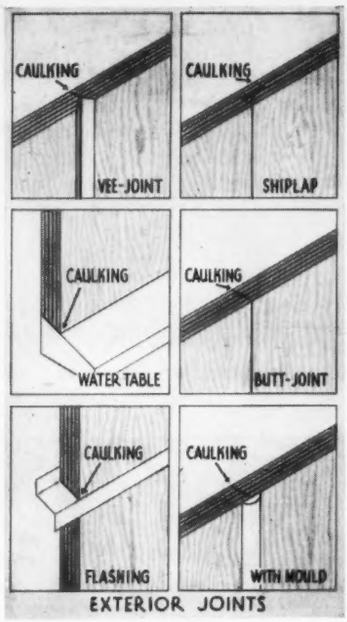
INTERIOR JOINTS

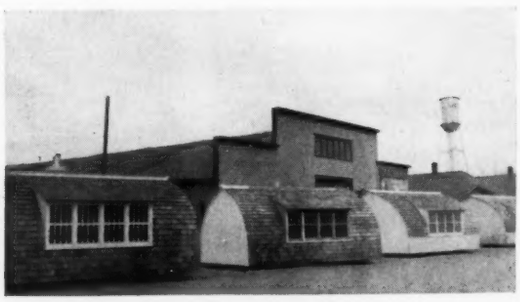
Plywood already occupies an important place in the vocabulary of today's architectural usage. These and the following pages indicate a still more impressive future. Thoroughly familiar is the use of sheet plywood as a wall-surfacing material (see typical interior joint details above). Increasingly important and widely used in house prefabrication systems is its use, shown in the two photos directly above, in panel construction, stressed-skin or otherwise. At top left is one of its more recent architectural applications—as a drainboard material, composed of a ply base to which a light-gauge stainless steel surface has been joined by means of an elastic bonding agent; a possible problem of denting may be eliminated through use of a heavier gauge metal or harder wood. In the photograph of the prefabricated trailer-type house, walls, cabinetwork, and furniture are all of plywood.

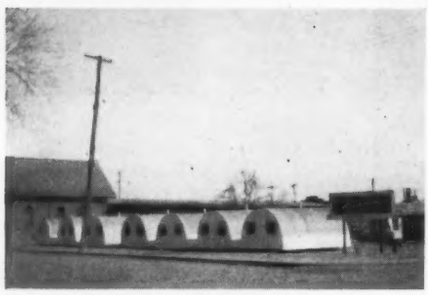
in it. It is cheap, easy to handle, easy to mold, and it stays put when made.

The application of short wave induction to the manufacture of plywood is a most important development. This compares to the use of diathermy in medicine; a short wave induction machine is nothing more than a short wave diathermy machine. As diathermy sends electric impulses through your body and agitates your molecules to create heat, so the current, oscillating at millions of times per second, agitates the molecules in the wood or in the bonding agent between the wood veneers and heats them.

If a pack of laminations as thick as a book, for instance, were put in a hot plate press, it might take seven or eight hours for the heat to penetrate throughout. And then the results would be in doubt, because the outer laminations might be over-cured, while the inner were under-cured. Short wave heating, on the other hand, is simultaneous throughout the whole mass, and the same unit of laminations could be heated through in five minutes. The thickness of the package makes no difference as long as enough kilowatts are applied to penetrate it.





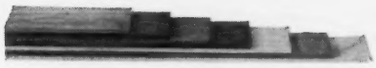


What is the practical application of this method? Well, we made boats in pre-war times; we made about 1,500 little boats, and they were marvelous. They were light and they were seamless. Twelve feet long, they made 30 miles per hour with a 16 horsepower outboard motor, carrying one man. But the neoprene bags we used for molding it cost us $6 per boat. They cost $125 to $150 apiece and they were good for 25 "cooks" and the forms were good for about the same. So between the bags and the molds we had an expense of about $12 per boat. Twelve dollars on a little boat is a lot of money, enough to take it out of the large, low-priced market.

Now, by the short wave method, instead of having to "cook" one of these boats for 30 to 40 minutes, it can be done in five. There will be no heat at all on the rubber bag, because the electrode will be inside it. There will be no heat on the form, because the heat will be

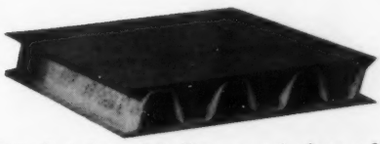
The well known use of sheets of plywood for interiors and exteriors (see recommended joints at top) is just the end of the beginning of plywood's architectural use. Laminated wood structural shapes extend wood's framing potential enormously. The picture above at left shows a laminated round-arch frame construction, to which a variety of surfaces may be applied; the smaller pictures indicate a few of the treatments developed for speedy provision of wartime shelter, prefabricated chicken houses, and other farm buildings, etc. The architectural possibilities implied in the use of such laminated frame members, in whatever shape may be required, are practically unlimited. The following pages suggest some of the exciting beginnings of plywood's future.

Prefabricated house construction—whose value many question—is about the most we have found practicable in plywood, but—

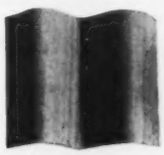


1. The basic material, layers of wood bonded with various types of resins under heat and pressure. . . .

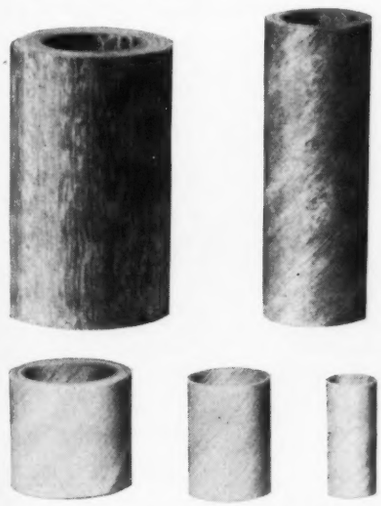
2. The basic material molded when it is created; on edge, this might be a completely self-supporting partition. . . .



3. Bomber flooring of hollow-cored plywood in three layers, the center one corrugated; approximately an inch thick . . . Implications for building construction?

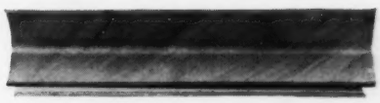


4. Accordion-pleated plywood, bent at right angles around an eighth-inch (or less) radius at re-entrant angles. . . .

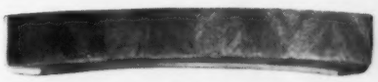


5. Plywood tubing, one of the most difficult forms to make under today's manufacturing limitations, may eventually become cheap enough to replace the iron column for certain structural purposes. . . .

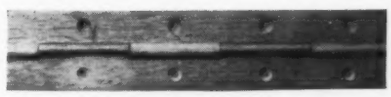
6. Plywood tubing in various diameters and thicknesses—will tanks, drums, telephone booths, etc., come prefabricated of this material?



8. Plywood angle—in truth, simply a section of the accordion section above . . .



9. Curved plywood angle . . . these photos indicate possibility of standardized series of structural shapes, enormously strong for their weight, nailable, capable of taking a good finish directly on the structural member. . . .



7. Combination of flat and tubular plywood: a cabinet maker's hinge, leaves ⅞-in.-wide, ⅛-in.-thick, with steel pin . . .

outside. The pressure will be compressed air. With short wave, then, it should be possible to use the neoprene or rubber bag and the form indefinitely. The cost, instead of $12 per boat, might come down to a few cents, plus very much speedier production.

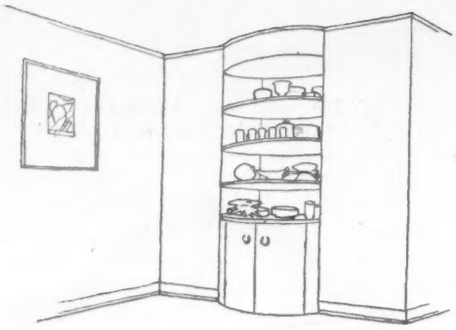
The same applies to plywood tubing, which is very hard to make. The walls are sometimes as much as 1⅝ inches thick and we have to "cook" and "re-cook" them. Some get eight "cookings." With short wave induction it can all be done with one "cooking" in about five minutes. We are developing machines to do the whole operation at one time. Plywood tubing ought to be quite inexpensive after the war. It is costly now.

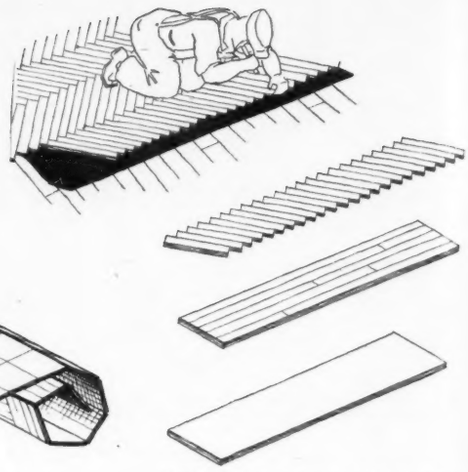
Steinway & Sons, the piano people, make gliders, and they do it exceedingly well. They have a leading edge that is about 16 feet long with all sorts of gradations, which they make by short wave as they do the wing ribs.

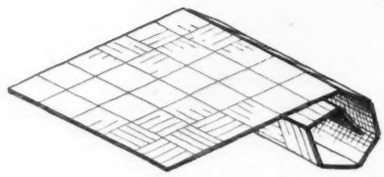
Short wave will revolutionize the use of plastics in wood, as plastics are revolutionizing the use of plywood, which in turn is revolutionizing our entire conception of the usefulness of our greatest natural resource, our forests.

10. Plywood angle with closed end, formed when fabricated.

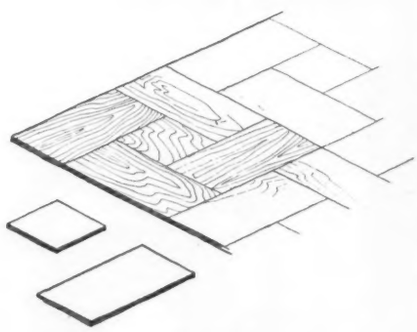
11. Square plywood tube (sample approximately 1½ by 2 inches in cross-section)—saw it in half longitudinally and you have two structural channels. . . . *(Continued on page 84)*





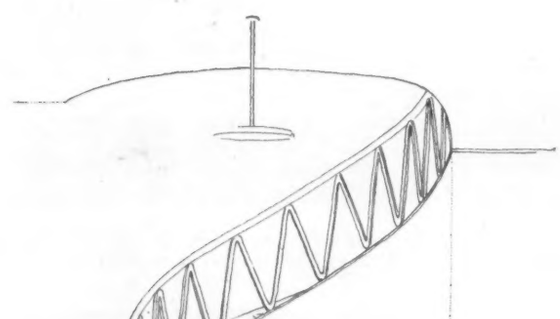


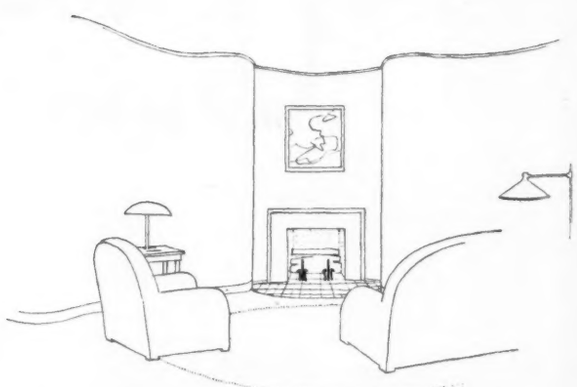
It would not be too great a step to make closets of premolded plywood. Here, for instance, is a revolving circular serving closet opening into two rooms: dining room and kitchen. A quarter turn closes the opening with a curved plywood panel surfaced in any wood desired. . . .



Left and above, possible types of plywood finish flooring: bottom left, squared blocks of plywood surfaced with hardwood; above that, parquet blocks secured to a backing, and rolled for storage and shipment, could be unrolled and glued to floor. Immediately above, plywood plank, board, herringbone pattern, the last two secured to backing and laid in one piece. Surfacing overhangs to mesh with next unit. . . .

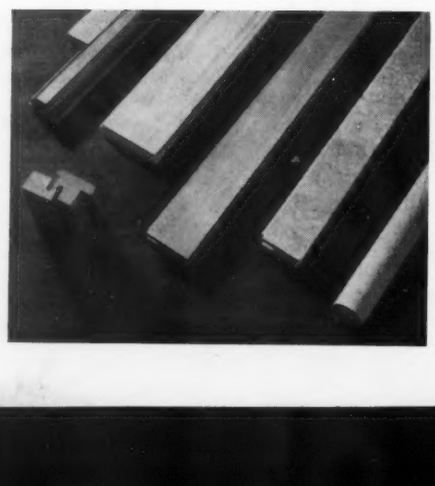
Plywood's Future....





Similar processes applied to wood and other materials bring astonishing results: above, curved, movable walls of paper laminated and bonded as plywood is. Paper may be made translucent or opaque, used as diffusing light baffle, etc. Below, two more properties of Du Pont's new "transmuted wood" (see page 15 this issue). Left, chemical treatment makes thin yet extremely strong molds, undercuts, etc., possible, machining easy; right, untreated piece at left absorbs moisture from damp towel, treated piece does not.

Stair rail of molded plywood tubing, with curved supports of urea-treated wood (treatment makes wood flexible until it hardens, making possible bent, curved, twisted forms). . . . Photo shows a plywood tube at more than half full size; original is diameter of pencil. . . .



Illustrations courtesy Louis H. Dreyer, William M. Rittase, Julius Shulman, E. I. du Pont de Nemours & Co., and American Forest Products Industries, Inc. Goodyear Aircraft Corp. and U. S. Plywood fabricated most of the items shown on page 83.

Manufacturers' Literature

Air Conditioning

1-01. *Catalog AC-161*, 12 pages, Carrier Corporation. (March)

Air Devices

1-02. *Agitair Products*, 12-page folder, Air Devices, Inc. (April)

1-03. *Package Units and Blowers*, 4-page booklet, Peerless Electric Company. (April)

Aluminum

1-04. The Aluminum Company of America has been "cooking" some of its familiar civilian-use applications of aluminum as well as many new applications during what it terms the "period of paper engineering." The company presents an *Aluminum Imagineering Notebook* listing 12 advantages of aluminum, from its light weight to its high scrap and reuse value, and illustrating examples of items which have been "imagineered" into actualities.

Bathroom Accessories and Equipment

2-01. *Bathroom Medicine Cabinets*, a 12-page booklet report on a survey consumer test conducted by the Home Makers Guild of America for Owens-Illinois Glass Co., contains data planned for use as a yardstick with which to measure a specific product from the point of view of medicine cabinet storage and package material preferences.

2-02. The Fiat Metal Manufacturing Co. has published a 16-page illustrated booklet, *Why Take A Shower Bath*, containing information on the personal features of shower bathing, and practical suggestions on installation and use for architects, contractors, plumbers, and home planners.

Blueprint Machines

2-03. *The Technique and Uses of "Office-Copying"* is a publication of Campbell & Co. It explains briefly and thoroughly the method of reproducing blueprints, drawings, tracings, specifications with Campbell Office-Copy Printers, a variation of photographic techniques. Copies 42 in. wide and of unlimited length can be produced.

Carbon Seal Rings

3-01. *Carbon Seal Rings*, an illustrated 12-page booklet on carbon seals and their application to bellows-type shaft seals, has just been issued by the Pure Carbon Co., Inc.

Color Signals

3-02. *A Safety Color Code for Industry*, 15-page booklet, Du Pont de Nemours & Company, Inc. (April)

Concrete

3-03. *Form-Ty Engineering* is a 32-page technical catalog in which not only are various types of concrete form ties shown, but also tables of safe loads, and engineering data of all types necessary in designing form work. These include thoroughly explanatory drawings, details, and charts on sheathing, post, joist, and joint loading. Richmond Screw Anchor Co., Inc.

Concrete Admixtures

3-04. *Sika Chemical Corporation Folder*, 4 pages, Sika Chemical Corporation. (March)

Construction

3-05. *Q-Data No. 1*, H. H. Robertson Co. (April)

Doors

4-01. *Do Away With Deadend Cellars This Modern Way*, The Bilco Company. (April)

Electrical Equipment

5-01. *Busways and Wireways*, 36-page bulletin, Square D Company. (March)

5-02. Cannon Signal Systems, 16 pages, Cannon Electric Company. (March)

5-03. The Square D Co. offers a practical, 28-page, illustrated booklet entitled *Care and Maintenance of Electrical Equipment* containing simple instructions for keeping switches, panel-boards, and switchboards in good operating condition.

5-04. *Electrical Living in 194X*, 64-page book, Westinghouse Electric and Manufacturing Company. (April)

Engine Controls

5-05. *Automatically Controlled Gas, Gasoline, and Diesel Engines*, Synchro-Start Products, Inc. (April)

Fireplaces and Accessories

6-01. Bennett Fireplace Company presents a 27-page booklet, *Bennett Fireplace Supplies*, illustrating and giving specifications for fireplace designs, screens, grilles, dampers, and construction supplies.

Fireproofing

6-02. With a warning that there is no such thing as "fireproofing," especially as applied to cellulose or wood materials, and that the most that can be expected is to treat them with material which will *retard* fire, the Albi Firepel Corp. announces in a brochure a liquid coating retardant for insulating the surface of material to which it has been applied by brush or spray. Its main use is for protection of *interior* building surfaces; it is applicable to old or new construction, bonds to wood, wallboard, sheathing board, wood fiber materials, or metal; comes in white and standard colors.

6-03. *Properties and Uses of Zinc Borate—S167*, 20 pages, Development Products Division, New Jersey Zinc Co. (March)

Floor and Wall Coverings

6-04. An asphalt floor tile composed entirely of inert materials (natural asphalt, bitumens of highest melt point, asbestos fibers, pure mineral pigments) appears in literature from the Tile-Tex Co., along with a plastic flooring composed of heat-and-pressure amalgamated materials. The two products have in common fire-and-moisture resistance, and non-slip surfaces.

Furnace Equipment

6-05. The principle of pneumatic conveyance of coal from hopper or main coal bunker, and thence to furnace and grates, is described at length in an illustrated booklet advertising a pneumatic spreader stoker for boiler plants, put out by the Iron Fireman Manufacturing Co.

Glass

7-01. Products of the Mississippi Glass Company are described and illustrated in a 15-page booklet, *Specify Mississippi Glass*, listing types of polished, figured, and corrugated wire glass, heat absorbent and glare reducing glass, colored cathedral glass, corrugated glass without wire, ultra violet transmitting "Vitaglass."

7-02. On May 1, Pittsburgh Plate Glass Company resumes publication of its monthly *Design of the Month* service, available only to practicing architects. Designs will be, as previously, 4-color process reproduction of a finished rendering, plan, and an interesting detail for a different type of store front each month, with explanatory material.

Hardware

8-01. *Hardware Data Sheets*, 12 sheets, Lockwood Hardware Manufacturing Company. (April).

Heating

8-02. Two new additions to A.I.A. File No. 30-C-43 are 46S-6, *Carrier 46S Unit*

Pencil Points, 330 West 42nd St., New York 18, N. Y.

I should like a copy of each piece of Manufacturers' Literature listed

NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.

NAME POSITION

FIRM

MAILING ADDRESS ☐ HOME ☐ BUSINESS

CITY STATE

PLEASE PRINT

5/44

Manufacturers' Literature

Heaters Insure Wide Heating Coverage and Flexibility (2-page sheet) and 46E-22, *Carrier Type 46E Unit Heater with Propeller Fan for Horizontal Discharge* (2-page sheet). A new addition to A.I.A. File No. 30-C-45 is 46PQR-17, *Carrier Blower-Type Heat Diffusers* (4-page folder). *These three additions were incorrectly listed as new A.I.A. files in the April issue.* Carrier Corp.

8-03. *Duragauge, 12-page bulletin,* Manning, Maxwell & Moore, Inc. (April).

8-04. *Heating and Conditioning the Post-war Homes,* 12-page booklet, Minneapolis-Honeywell Regulator Company. (April)

Insulation

9-01. A 2-page pamphlet on insulation facts and news, *Performance,* is published by the National Mineral Wool Association as an addition to A.I.A. File No. 37-B and contains a transcript of F. E. Giesecke's study on wall surface temperatures presented at the Centennial Celebration of the Manufacture of Mineral Wool.

Kitchen Cabinetry

11-01. *Kitchen Maid War and Postwar Cabinetry,* 8-page brochure, The Kitchen Maid Corporation. (April)

Lighting

12-01. Pendant and Ceiling mounted types of luminaires, for use in offices and drafting rooms, according to Curtis Lighting, Inc., have steel wiring channel, flat non-metallic reflector, ballast shields, reflector ends; width, 9½"; length, 48"; suspension, top of ballast to bottom of wireway end plate, 6⅛"; wire for 110-125 volt, 60 cycle, AC current, high power factor tulamp ballasts; can also be wired for 220-250 volts. Curtis also calls attention to its "Bedford" units for two 40-watt and three 40-watt lamps for office and drafting room use as well as certain industrial lighting applications. These have square ends, can be joined together with flexible steel straps to hide joints and prevent light leakage; steel wiring channel, non-metallic reflector; overall length, 48"; each additional section adding 48⅛"; reflector, 11¾" wide; height to top of ballast, 7¾".

12-03. *Facts About Colovolt, The New Cold Cathode Low Voltage Lamp,* a 6-page (5½x8") booklet published by General Luminescent Corporation, describes the performance of this fluorescent lamp of a standard 93-in. length, 25 MM diameter, and covers the subjects of low voltage requirements; instantaneous starting; starting and operation in low ambient temperatures; 8000 hour lamp-life expectancy; operating guarantees of one year; low surface brightness with resultant minimum glare.

12-04. *How to Use Fluorescent Accessories,* 16-page booklet, General Electric Division. (March)

Lumber

12-05. Lumber Industry Facts (1943 edition), National Lumber Manufacturers' Association. (April)

Maintenance

13-02. *Maintaining Your Buildings Today,* L. Sonneborn Sons, Inc. (April)

Paint

16-01. *National Paint Dictionary,* Stewart Research Laboratory. (April)

Plastics

16-02. *All Types of Plastics,* 24-page booklet, The Richardson Company. (April)

Plumbing Fixtures

16-03. *Douglas Folder,* 8-page booklet, The John Douglas Company. (April)

16-04. *Women Tell Us,* Eljer Company. (April)

Standards

19-01. *600 Standards, American Standard Basis for the Coordination of Masonry (A62.2),* and *Coordination of Dimensions of Building Materials and Equipment (A62.1),* The American Standards Association. (April)

Steel

19-04. U. S. Steel Corporation has joined a growing list of manufacturers of building products who are advising the public to make use of advice and services of architects. At the beginning of its recently published booklet, *85 Ways to Make a Better Home,* the Corporation says, "Whether you plan to build, remodel, or buy a home, it will pay you to discuss the matter with your architect and builder.

"Your architect is in business to help you get just the house you want. Your builder is in business to construct the best house he can for the money. So before you build or remodel, talk over your plans with these experienced men. Their advice will be helpful, too, if you intend to purchase a home already built."

Storefronts

19-02. *Reports on Two Architectural Competitions,* The Kawneer Company. (April)

Swimming Pools

19-03. *Swimming Pool Data & Reference Annual.* (April)

Testing Facilities

20-01. *Directory, American Council of Commercial Laboratories.* (April)

Toilet Compartments

20-02. *Toilet Room Environments,* 12-page booklet, Catalog No. 82, Sanymetal Products Company, Inc. (April)

Trucks

20-03. *Colson Quiet Trucks for General Purposes,* The Colson Corporation. (April)

Valves

22-01. *Malleable Iron Valves,* 6-page brochure, Jenkins Brothers. (April)

Ventilation

22-02. Allen Corporation, ventilating engineers, offer 8 new pieces of literature illustrating and describing approximately 50% of their line, stated to be practical treatment of ventilating problems and offering solutions based on experience.

Windows

23-01. *Condensation on Glass in Windows,* 4-page booklet, and *Hope's Quick-Set Storm Sash,* Hope's Windows, Inc. (April)

Pencil Points, 330 West 42nd St., New York 18, N. Y.

I should like a copy of each piece of Manufacturers' Literature listed

NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.
NO.	NO.	NO.	NO.

NAME POSITION

FIRM

MAILING ADDRESS ☐ HOME ☐ BUSINESS

CITY STATE

PLEASE PRINT 5/44

LITERATURE, SAMPLES WANTED

VAN DOREN, NOWLAND & SCHLADERMUNDT, Industrial Designers, 220 East 42nd St., New York, N. Y. (Data, samples, and catalogs for A.I.A. file, and items useful in industrial design. Address to the attention of Virginia Paige, Research Department.)

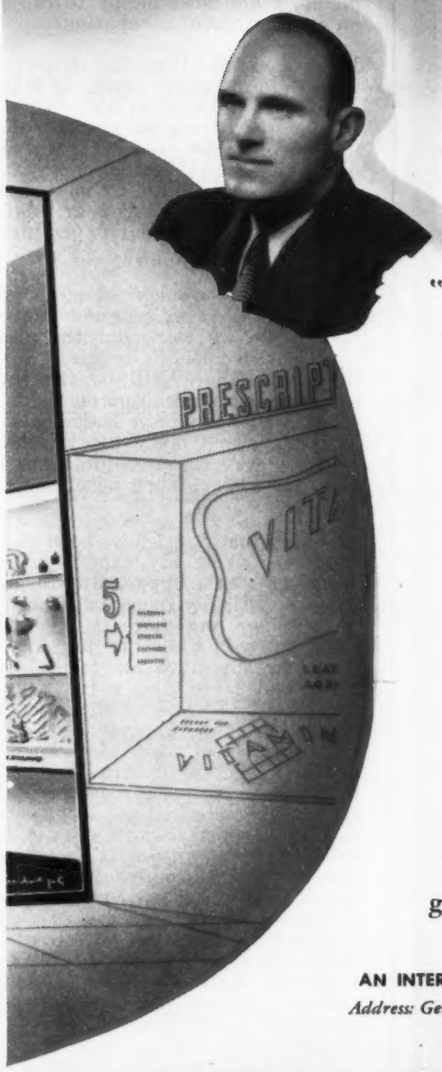
IRA E. CUMMINGS, Architect, Winslow, Washington (Data, samples, and catalogs for A.I.A. file; also Don Graf Data Sheets.)

R. W. ENGELSON, 1121 Broadway N., Seattle, Washington (Data, samples, and catalogs for A.I.A. file; also Don Graf Data Sheets.)

KEITH HINCHCLIFF, Assistant Extension Agricultural Engineer, State College, Mississippi (Samples of recently developed building materials suitable for farm building construction.)

goes dramatic...

FOR THE POSTWAR DRUG STORE



GENERAL ELECTRIC is glad to bring you another in its series of postwar perspectives on lighting. This stimulating idea comes from J. Gordon Lippincott, M. S., in Engineering and Architecture, consultant industrial designer of the New York firm, Dohner and Lippincott.

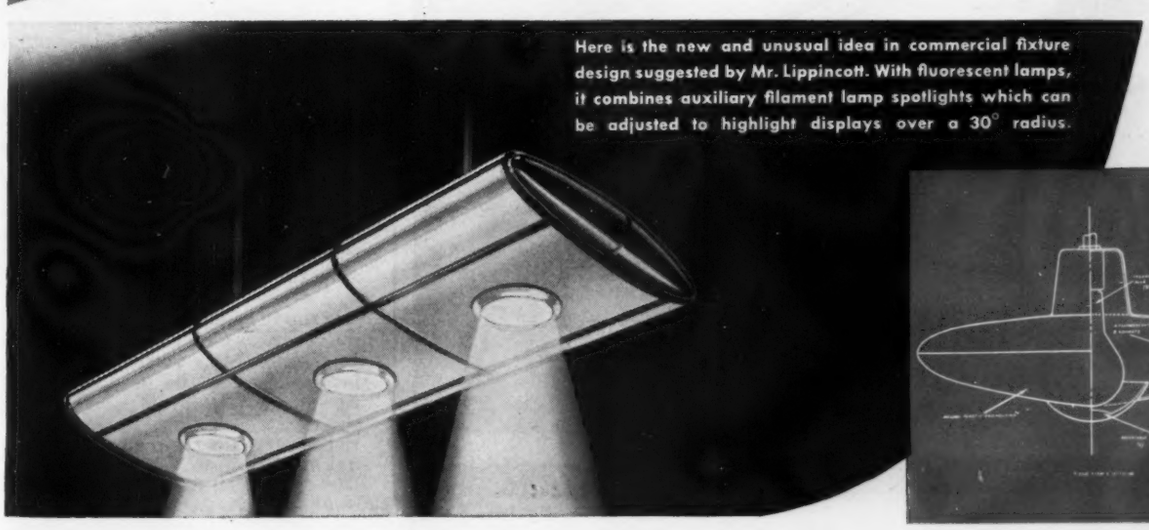
says Mr. Lippincott—

"The power of suggestion, always a potent force in drug merchandising, largely depends upon dramatic display and well-designed lighting. The more drug products customers can see *and the more easily they can see them,* the more they buy.

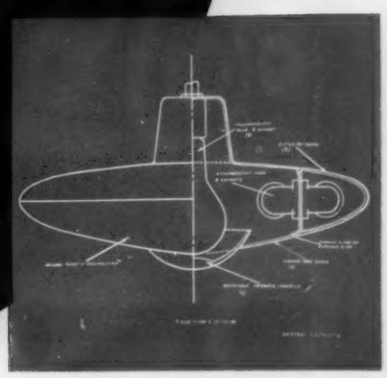
"In the design of this postwar drug store, we have employed proven light sources to illuminate an unusual and attractive interior. New, specially-designed fixtures combine the large-area low brightness of fluorescent lighting with the spot-lighting punch and color of filament lamps to make the whole store an exciting show window. An all-glass store front, slanted back from the street at one side, attracts the eye of the passer-by. As shoppers see them, even from the street, off-set cases furnish a series of colorful supplementary displays.

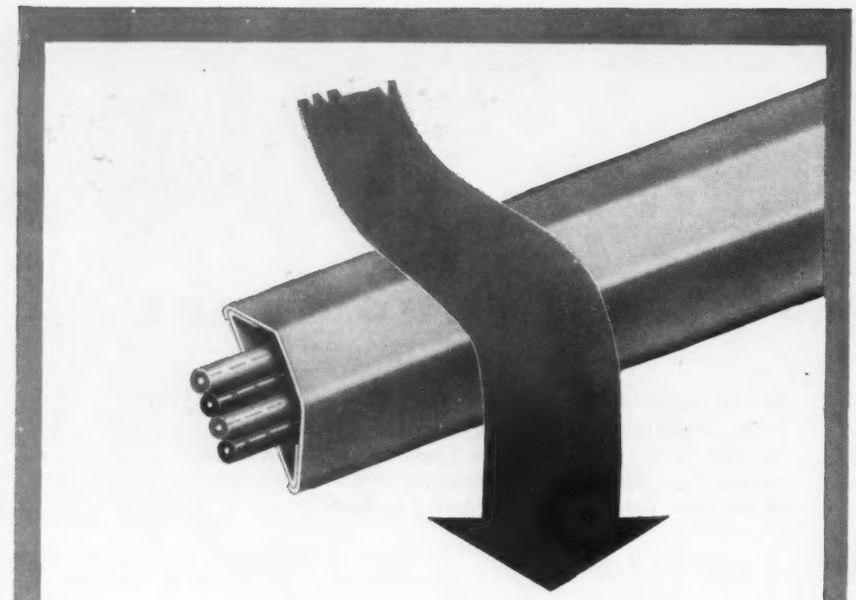
"Thus in postwar store interiors, with many new lighting tools available, LIGHT can be a creative medium for the architect, a powerful sales-aid to the druggist and an important help to his customers."

AN INTERESTING BOOKLET *with further details will be sent you on request. Address: General Electric Co., Dept. 166-PP5, Nela Park, Cleveland 12, Ohio.*



Here is the new and unusual idea in commercial fixture design suggested by Mr. Lippincott. With fluorescent lamps, it combines auxiliary filament lamp spotlights which can be adjusted to highlight displays over a 30° radius.





You may Safely wire on top of the floor where necessary

FLORDUCT

substantial fittings for every need . .

National Electric
PRODUCTS CORPORATION
Pittsburgh, Pa.

Views

(Continued from page 10)

them down in black and white. While at present it is most difficult to forsee my own part or even that I will ever again have any part in Architecture when our present "business" is completed, I am most happy to conjecture on my favorite of occupations.

First you mention the homecoming. That is foremost, of course, in all of our minds. To those of us who, like myself, have stepped from the ivy halls directly into uniform, the prospect is tinged with no little apprehension, apprehension about breaking into competition with men already established or who have had some professional experience outside of school.

There is the problem of supporting a family on what we will earn as draftsmen while we work out the years of practical experience required for registration. There will be the problem of psychological readjustment for those of us who have been learning to give the orders and make the wheels turn. These, however, are the problems of the minority and as such deserve no more space.

The very fact that I have been so rudely estranged from my chosen profession has given me the opportunity to examine it more critically from the viewpoint of an outsider and more particularly an engineer, which is the job the Navy made me specialize in. It is becoming more and more firmly my conviction that the Architectural education of today (within my own experience mainly) far surpasses all others in fitting a person for not just Architecture, but for the best performance of any job assigned. It embodies the ideal combination of technical background and liberal arts and humanities. Its devotees are not the uncultured engineer so aptly typified as "hairy-eared," nor do they flinch at the sight of a slide rule. As was true in the days of Leonardo, they approach more nearly the ideal of a universal man. Aside from this good balance, there is the more positive and significant quality of all, the ability to PLAN.

Planning is something which enters all lives in one form or another. Every decision made with forethought implies Planning. Few people are taught Planning formally; they usually learn by experience, which is often costly. Engineers as a group are taught planning, but usually within limits, always in mathematic detail, and often accidentally. Architectural training is the only field which teaches the technique of Planning in its simplest and most fundamental processes.

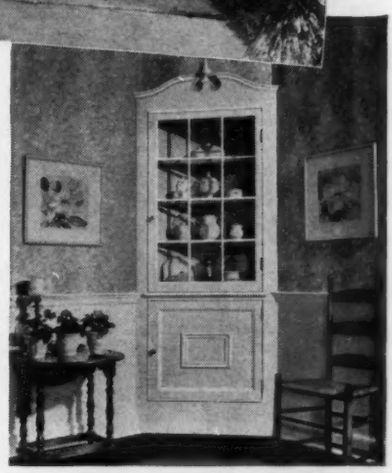
Too many of us think of Planning as the difference between a 2 by 6 or a 2 by 8 joist or, worse yet, as the difference between pink tile and lavender tile. Specifically, Planning is the control of the cause and effect process. The scientist observes certain effects, ponders the unknown causes, and traces the steps

(Continued on page 98)

Why so many of Tomorrow's plans will include CURTIS ARCHITECTURAL WOODWORK

Why are so many architects and builders, from coast to coast, planning to select Curtis Architectural Stock Woodwork for the homes of tomorrow?

First, because Curtis Stock Woodwork has the architectural correctness of design which adds distinction to any dwelling—reflects credit on the designer. Curtis has pioneered authentic styling in woodwork, and many Curtis designs have been created by famous architects. Second, Curtis offers such woodwork in wide variety for every size and type of home. And third, Curtis quality—since 1866—has assured lasting satisfaction.

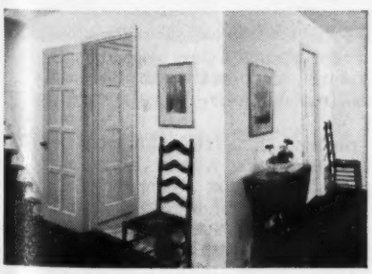


Built-in china cases are a "must" in the plans of many postwar home builders. This is one of several Curtis styles.

From any point of view—economy—correct style—ease of installation and lasting value—Curtis stock woodwork is an ideal choice for new construction or remodeling in the postwar period. Mail coupon for information.

Your plans may include a Curtis kitchen, too. These stock wood cabinets fit any practical space—may be decorated as desired.

There is dignity and beauty in this Curtis stairway, assembled from Curtis stock parts of Ponderosa Pine.



Nothing can add more good taste to a room than well designed interior doors. This is only one of many popular Curtis doors.

A Curtis mantel of traditional style will add an atmosphere of gracious living to any home. Designed by outstanding architects.

1866 CURTIS WOODWORK

Curtis Companies Service Bureau
Dept. PP-5W, Clinton, Iowa
Gentlemen: Please send me information on Curtis Stock Woodwork for postwar homes.

Name.....

Address.....

City.....*State*.....

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RICHMOND 10-WAY SAVING PLAN

1—Provides all kinds of form-tying devices to choose from.
2—Economizes because Form Ties cost less to use than wire, band or rod ties.
3—Supplies Form Ties engineered for safe working loads of 1,500-30,000 lbs.
4—Assures faster erecting and stripping plus big lumber savings.
5—Promotes perfect alignment for correct wall thickness.
6—Protects job against rust staining with 1 to 3 inch cutback.
7—Saves shipping and handling costs because of scientifically reduced weight.
8—Is only known prevention against termite destruction.
9—Enables you to borrow working parts and to pay only for ties in the job.
10—Is planned from job plans to use the right size of ties and the least number of ties to fit forming for fast, safe work.

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Whether you are planning, designing or estimating on a concrete job—large or small—there are *Dollars* to be saved on *Form Work* by planning.

Richmond Services to Architects, Engineers and Contractors include recommendations on Form Tying Devices, Consultation on Form problems and Forming used, as well as Estimates on requirements, all without obligation.

The list of big jobs on which Richmond Form Ties have saved on form-work costs and speeded up completion is a blue-ribbon list of modern construction. It includes mammoth projects everywhere—and small contracts, too. There is a Richmond Tie engineered for every type of concrete construction. We plan a Tie to fit the work.

For information, write to our Planning Division.

RICHMOND SCREW ANCHOR COMPANY, INC.
816 LIBERTY AVENUE • BROOKLYN, NEW YORK
Established 1911

TIME AND LABOR SAVING CONSTRUCTION DEVICES FOR CONCRETE CONSTRUCTION

Views

(Continued from page 96)

from the effect to the natural causes. The Planner visualizes the desired effects and then seeks to institute causes that will produce them. Generally, Planning is visualizing, visualizing the path from broad and sweeping ideals back to the minute and prosaic details of the moment; and, while visualizing the most microscopic details and their place in the whole, never losing sight of the ultimate goal. The end to be attained is too often lost sight of and Planning becomes cookbook specifying. Architecture is more than the considerations of appropriately enclosing space. It is a way of life; it is a philosophy, and as such it should be carried out to its furthest implications. Recently one has heard the term Planning used more frequently at the seat of our government, heard it in both laudatory and condemning tones. In verity, that is an excellent sign. When some in our government at last realize that the job of guiding the destiny of our civilization is a task which calls for specialized techniques, it won't be long until our country is run with more in view than next year's problems. Planning in Washington as an approach to government is good, but the technique is bad principally because no one has the background and experience to keep his eye on the ideal. Invariably, details are considered first and usually in absolute disregard for compatibility with the ends in view. With more Planners, and I don't mean economic experts or any other experts as such, with more Planners and possibly fewer word peddling lawyers, much more could be accomplished. Words on paper have as yet to prevent wars or wipe out slums and illiteracy. Visualization of the ends desired *as well as* the detailed steps to achieve them is the technique more likely to succeed.

You and others may feel that this is too far afield from the legitimate considerations of Architects, and perhaps for many it is. Probably the ultimate solution lies in training our public servants for all phases of their jobs, including the technique of Planning as we know it. Actually, the City Planners are a step nearer in this direction, but there are not enough of them and they aren't as yet far enough in that direction.

To sum it up, I want Architects of the postwar world, not all of them, of course, but at least as high a percentage as the law profession has, to go into public life and take some of these important jobs which they are so preeminently suited for. Let us widen our horizons and architect not only our dwellings but our entire environment.

To pass on then from the soap-boxing to my own doings, which you also request. Upon graduation from school (June, 1941), I was immediately sent back by the Navy for very intense and very excellent training in aeronautical engineering. Since then, I have been stationed at various air stations and have been predominantly concerned with one

(Continued on page 100)

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Quality
DRAWING PENCILS
WITH Carbo-weld LEAD

The time-saving qualities of Kimberly Drawing Pencils are reflected in the finished job. Take a tracing made with the new Kimberly Tracing Pencil—examine the clean, smooth lines and dense color—then examine a blue print made from that tracing—notice the clarity of the clean white lines. *This* is quality, made possible by a Quality Pencil.

Kimberly Carbo-Weld Drawing Pencils are made in 21 perfectly graded degrees 6B to 9H, including Tracing 1-2-3-4. If you are not familiar with Kimberly Pencils, you can try them by returning the coupon below.

General's SEMI-HEX Carbo-Weld Thin Colored, made in a variety of colors, is another essential pencil in the drafting room. The white, lemon yellow, and a special red are best for map and blueprint work.

Kimberly refill drawing leads for holders available in 14 degrees (5B to 7H)

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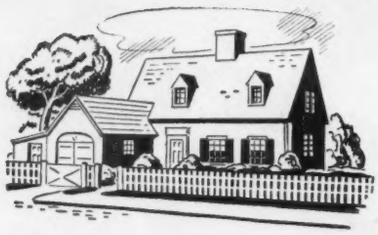

Investigate TILE-TEX Wall Tile *Now*— for postwar houses

Right now many architects are planning residences that will be built as soon as the guns stop shooting. *Now* is the time to get the facts about Tile-Tex Decorative Wall Tile. Here is a plastic composition tiling specifically designed as a modern wall treatment and available in a superlative range of attractive colors. Prior to the war, Tile-Tex Wall Tile was fast becoming the choice of discriminating residential architects for bath and kitchen wall treatment.

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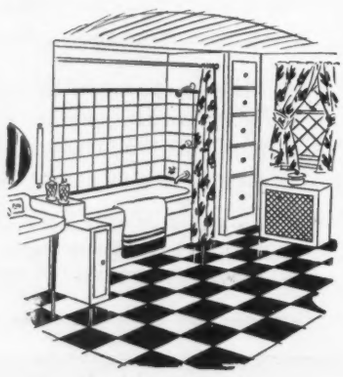

★ *The Tile-Tex Company*

101 Park Avenue, New York City • Chicago Heights, Illinois

Views

(Continued from page 98)

or another phase of repair and overhaul of aircraft, and the design and construction of equipment. It has proved excellent experience in many ways. Most important has been the responsibility given us at an age of relatively few years and sparse experience. I have been most fortunate in having learned much, actually more, I can't help feeling, than the Navy is getting in return.

WILLIAM L. SCHUBERT,
Lieutenant USNR

Reply from the Seabees

Dear Mr. Reid:

I do thank you for your good letter of mid-January asking for comment on our attitude toward the postwar rehabilitation. First I must say congratulations on the material the NEW PENCIL POINTS presented in its first year of rebirth. I wish there were space here to mention in detail my pleasure at seeing so many fine buildings. Here where it is coral sand, blue water, an occasional green weed, and temporary buildings, the solidity and spirit, taste and humor of the new Library at Cranbook help to reaffirm one's faith in the American way of living.

Here I have seen a temporary base grow to something that is of quite some importance to the conduct of the war and one that will remain so for some time to come. How unfortunate that its growth could not have had the guidance of a firm architectural hand. With proper planning its daily work could have been much simplified. That, of course, could not be.

Postwar? I hope the demand for further "Van Ports" can be answered by "Broadacre City"; that private dwellings can be built from Prefabricated modular units. General Panel has the jump there but not enough yet. Expensive homes, Gardner Dailey and Anshen & Allen, or better.

JOHN C. SEWARD, CCM
U. S. Naval Construction Battalion

More Architects at War

Since the publication of the list of architectural men in uniform (December, 1943), additions and corrections have kept coming in. The following information brings us up to date as of this writing. Additions and corrections were published in the Views *pages of the February, March and April issues. (For abbreviations see previous issues.)*

Illinois

STANLEY D. ANDERSON, Lt. Comdr. (USNR)
FRANK POLITO, Capt. (USAAF)

Massachusetts

FRANK J. BARRETT
WILLIAM G. WEIR, (USN)
FRANK EDWARD GALVIN, Pvt. (USA)

(Continued on page 102)

KEWANEE
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This rear-end view of a Kewanee (500 Series for High Pressure) shows some of the reasons why it produces steam with minimum fuel.

The many long tubes thru which the hot gases must pass permit the water in the boiler to absorb all the usable heat.

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Fort Worth	3-3244
Hollywd	GRANITE 4188
Houston	CAPITOL 1233
Indianapolis	MKT 4466
Jacksonville	5-2166
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Views

(Continued from page 100)

More Architects at War (Cont'd.)

A. WASSON TUCKER, R.C.E.
GEORGE S. LEWIS, Pfc. (USA)

Missouri

ALFRED J. JOHNSON (USN)

New York

JOHN T. DE FOREST, Chief Carpenter's Mate (CPO) (USNR) (Seabees)
J. D. FESSENDEN, Lt. (USMCR)

Ohio

HARVEY H. HATHEWAY, Ensign (USNR)

Texas

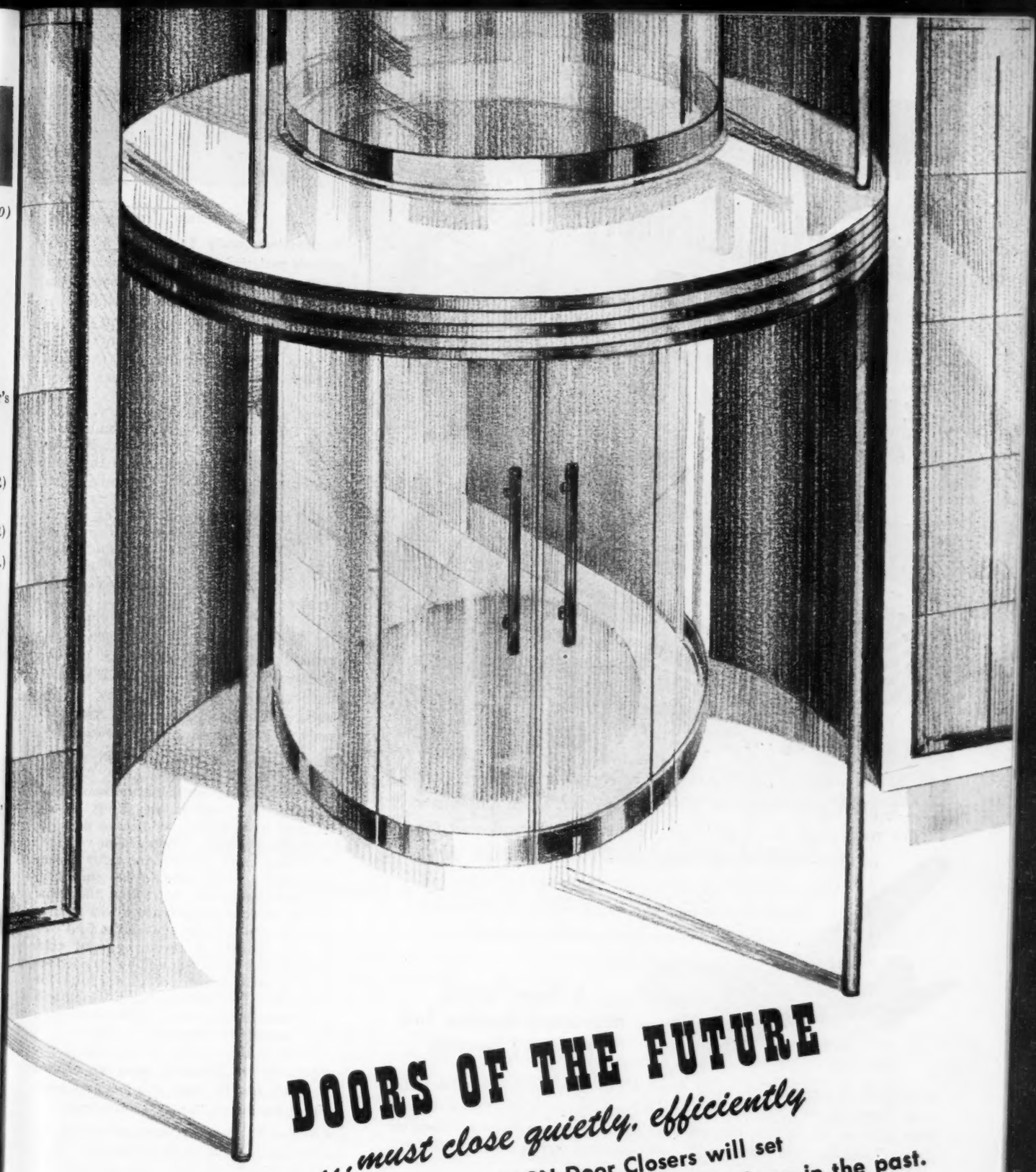
MIKE MEBANE, Lt. (j.g.) (USNR) (CEC)
SETH IRWIN MORRIS, JR., Lt. (j.g.) (USNR)
A. A. NEUNER, Maj.
T. J. PALM, JR., Pvt. (USA)
RAYMOND PHELPS, Col.
EDWARD T. PHINNEY, Lt. Col. (USA)
JAMES D. PIPER, Lt. (USN)
L. W. PITTS, Lt. (USNR), (CEC)
JOHN HAYES PRITCHARD, Capt.
K. R. RANSOM, (USN)
KARL A. ROBINSON, (USN)
JAMES A. RUSSELL, Capt.
ROBT. P. SAMUELS, Capt. (USA)
GORDON M. SMITH, Maj. (USA)
GUS C. STREET, JR., Maj. (USA), (C.E.)
BAILEY SWENSON, Lt.
GUY M. TROUT, Maj.
JOHN H. TURNER, Maj.
KELSO D. VERNOR, Maj.
JOHN R. WALKER, Lt. (j.g.) (USN)
MARSHALL HEISEY WALKER, Lt. (j.g.) (USN)
JAMES F. WEBSTER, JR., Lt. (j.g.) (USN)
RICHARD J. WERNER, Lt. Col. (USA)
F. TALBOTT WILSON, Capt.
GLENN C. WILSON, Capt.
JOHN A. WORLEY, Capt.

Notices

DANIEL M. DORR, Draftsman, and EMIL J. MINX, Registered Architect, announce the opening of offices at 333 N. Michigan Avenue, Chicago, Ill., for the practice of architecture, specializing in prefabrication and industrial design.

Harold Van Doren, Roger L. Nowland, Peter Schladermundt, and Katherine B. Gray announce the opening of offices for the practice of industrial design in New York and Philadelphia under the firm name of VAN DOREN, NOWLAND & SCHLADERMUNDT. The addresses are 220 East 42 Street, New York 17, N. Y., and 1717 Sansom Street, Philadelphia 3, Pa.

ALFRED C. WILLIAMS, A.I.A., Architect, announces the opening of an office for the practice of architecture in the Phelan Building, 760 Market Street, San Francisco 2, Calif.



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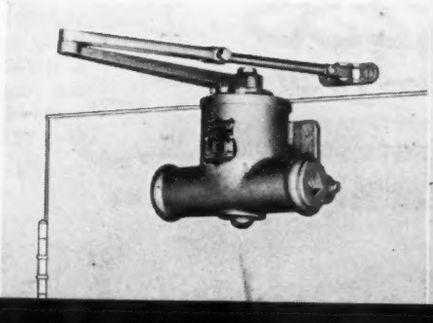
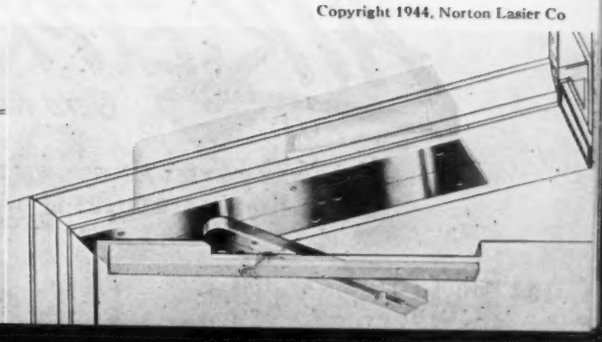
DOOR CLOSERS





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News

(Continued from page 14)

Westchester County Society of Architects actively protested the form of conducting an architectural competition for a proposed fire house in a section of Mount Vernon, N. Y.

Through their publication, *The Blue Print*, they state: ". . . Even the fee is on a competitive basis and the final paragraphs show the utter lack of responsibility assumed by the city . . . the entire program was so contrary to any fair form of professional conduct in conducting a competition that the action of protest was taken and the local chapters of the A.I.A. were advised of our protest." An editorial further states that architects of good standing do not compete on a price basis and urged that the proposal be reconsidered and selection of an architect be on the basis of proved ability and not on the basis of cheapness.

The Construction and Civic Development Department Committee of the National Chamber of Commerce presented to its board of directors resolutions urging that city, county, state, and national governments should finance their own needed public works.

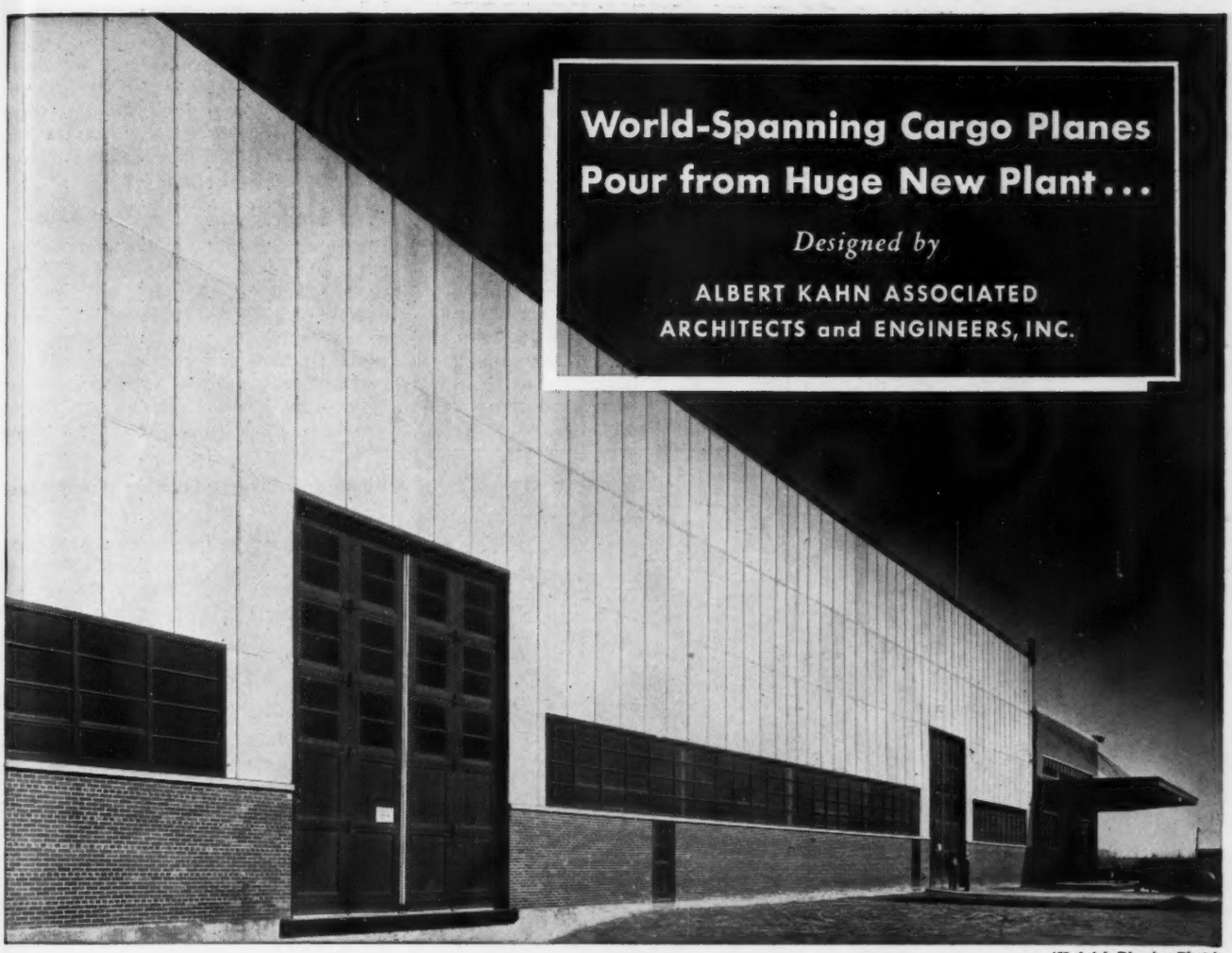
They further stated that all public works should be undertaken through the competitive contract method; that construction from public funds should be used to eliminate as far as possible the fluctuations in construction volume; that plans and specifications for essential public works should be placed in the blueprint stage now; that the same should be done for private works so that private construction may have first call on the industry's resources, and that federal tax laws should be revised to make available sources of revenue for states and local governments which will free these bodies from dependence upon the federal government.

Discussion of Chicago's super or express highways was the topic of a February meeting of the Illinois Society of Architects.

Charles E. DeLeuw, formerly chief engineer of Chicago's Department of Subways and Superhighways, pointed out that the Chicago plans differed from those of some New York highways in that they were conceived to accommodate express buses and other rapid public conveyance transportation.

Richard van Gorp, planning engineer of the Department, stated that express highways, depressed or elevated, materially reduced street accidents. George L. Jackson, senior assistant engineer of the Department, spoke on general features of expressway design with particular reference to Chicago's West Route

(Continued on page 108)



(Hedrich-Blessing Photo)

67,000 Sq. Ft. of Cemesto Wall Units Used to Speed Plant to Completion

WHEN the Defense Plant Corporation wanted a plant designed exclusively for building huge cargo planes, they called in Albert Kahn Associated Architects and Engineers, Inc., Detroit, Michigan, to do the job.

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Here again, Cemesto, the new multiple-function building material demonstrated its amazing adaptability to modern plant design . . . its ability to supply strong wall construction, *fast*.

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To Architects: Without obligation, we will be glad to give you technical assistance on the use of Cemesto Wall Units in any type of building. A note to us will bring a trained Cemesto representative to your desk.

What Cemesto Is: Cemesto is a multiple-function material, combining exterior and interior finish plus insulation in one complete fire-resistant wall unit. Cemesto construction can be pre-engineered and Cemesto panels can be factory pre-fabricated to exact size. The result is great saving of field labor, amazing building speed and economy, and sturdy, permanent, attractive and comfortable buildings.

Cemesto comes in panels ranging from 4′ x 4′ to 4′ x 12′. Can be used in vertical or horizontal construction. Color is warm gray and the surface need not be painted.

Two free booklets on Cemesto and Cemesto construction for architects and builders are now ready. Write for yours today. Address, The Celotex Corporation, Dept. PP4, Chicago 3, Illinois.

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INSULATING WALL UNITS

News

Products Progress

(Continued from page 16)

Motorized Control of Chimney Draft

The Hotstream Heater Co., 8007 Grand Ave., Cleveland, Ohio, has added an electric controlling motor, Model "BM", to its standard Model "B" Draft-O-Stat, and states it makes 10 to 30 percent fuel savings possible on any automatic coal or oil burning furnace, that it creates a more uniform room temperature, eliminates chimney fire hazards, and that the resulting efficient combustion creates less soot and "fly-ash."

Future for Metal Lath

The metal lath industry has done its full share toward the war effort, according to a statement prepared by Arthur J. Tuscany, Commissioner of Metal Lath Manufacturers Association, Cleveland, Ohio. WPB restrictions have greatly curtailed the supply of metal lath for civilian use, but he stated that it continues to be produced in comparably smaller quantities, which means that one-purpose manufacturing facilities have been kept ready to be expanded to full production schedules when possible. Meanwhile various industry committees are studying ways and means to further standardize and simplify metal lath and accessories for postwar applications.

Paint Brush Cleaner

Prestorer, according to its manufacturers, Technical Development Laboratories, Tenafly, N. J., will quickly cleanse or soften paint brush bristles in a few hours, is non-inflammable, contains no high-powered caustic alkalis, gives off no poisonous fumes, and after being used, the solution can be strained through cheese cloth and used again and again.

Plans for Instant-Starting Fluorescent Lamps

Westinghouse Lamp Division at Bloomfield, N. J., has announced plans to manufacture an instant-starting 40-watt fluorescent lamp having the same rated life as the standard type fluorescent lamp. Limited quantities of the new lamp are now available.

Waterproofing Soil

Hercules Powder Co. of Wilmington, Del., announces their development of a resin compound called Stabinol which, when mixed with the top few inches of soil, is claimed to make the soil waterproof. They state that water will drain off or evaporate from the resulting waterproof surface, which also resists capillary rise of moisture from below. They say that waterproof surface has already been proved in use on roads, airplane landing fields, and other construction projects, the process being known as "soil stabilization." Stabinol does not increase the load-bearing capacity of soil but is claimed to prevent the loss of strength when soil gets wet.

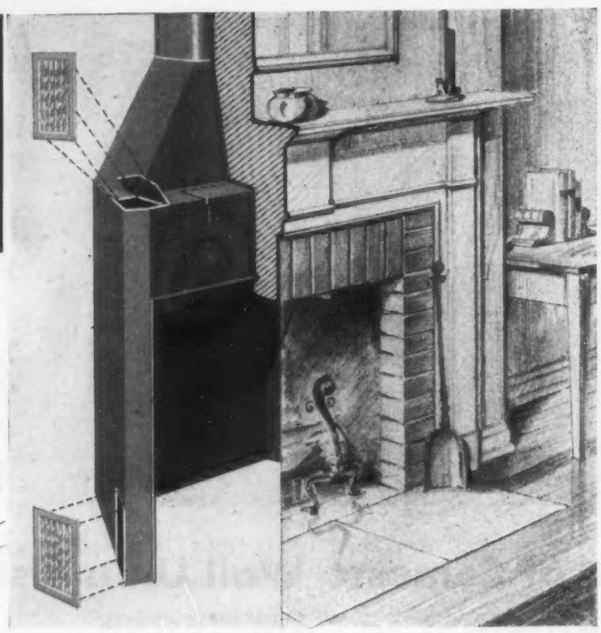
Black Light

Development of a plastic filter claimed to be able to transmit invisible ultraviolet light rays from a visible white light fluorescent lamp and to filter out the visible light, is the achievement of J. M. Gordon, fluorescent plastics consultant and research engineer for Lion Manufacturing Co. of Chicago. Applications of "black light" may now be possible for illuminating control knobs, switches, doorhandles, as well as for permitting night reading without glare or reflected light. The manufacturers state that the plastic filter can be used with any size fluorescent tubular or circular style lamp planned for production.

Plastics and Luminescent Pigments

In an article published by the New Jersey Zinc Co., *Postwar Uses for Luminescent Pigments*, V. A. Belcher discusses possible future uses of combining luminescent pigments with transparent or translucent plastics, or with molded and finished plastic items. He states that luminescent pigments are now being manufactured and used on tonnage scale.

BENNETT
Recirculating
Unit



A Healthy Fireplace SHOULD Catch Cold!

Yes, the Bennett Recirculating Unit catches cold and heats it into comfort. As you know, a fireplace exhausts air from the building. Replacement air comes in cold and forms a chilling current across the floors of the whole house

In a *Bennett* recirculating fireplace, see what happens. The unit draws the cold air off the floor into heating chambers ... warms it and returns it evenly throughout the room at comfortable temperature.

Recirculating Unit is *not* for tight buildings. In these, only the Bennett *Fresh Air* Unit will do the job. (Ask us why.) *Both* units are complete with damper, smoke shelf, combustion and heating chambers. *Both* are guaranteed *NOT TO SMOKE.* At the GO signal, Bennett Fireplace Units, Flexscreens and construction supplies will be released. Meanwhile, please refer to our 8-page catalog in Sweet's Architectural File. The Bennett Company of Norwich, N. Y., *Fireplace Division,* 544 Cedar Street

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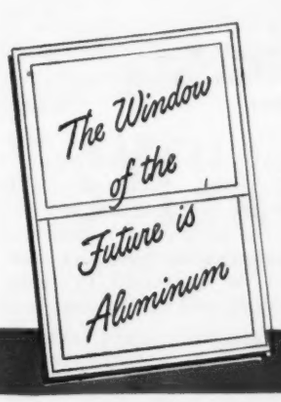
Aluminum was selected only after considerable study of various window materials. Aluminum was known to be able to withstand the high sulphur atmosphere without protective coating and the weathered color of the aluminum would blend harmoniously with the limestone selected for the structure.

Since their installation maintenance expense has been negligible, being confined almost entirely to the cost of making occasional adjustments on weather stripping to meet the requirements of summer and winter temperatures. Weathering of the exposed aluminum has fulfilled all expectations, and the outward appearance of the window frames and sash has elicited nothing but favorable comment. No surface protection nor other exterior maintenance has been found necessary.

Good looking, maximum glass area, easy opening and closing, low on maintenance; excellent reasons for inserting "Aluminum Windows" in those postwar specifications you are writing. ALUMINUM COMPANY OF AMERICA, 2198 Gulf Building, Pittsburgh 19, Pennsylvania.



ALCOA ALUMINUM

Reg. U. S. Pat. Off.

News

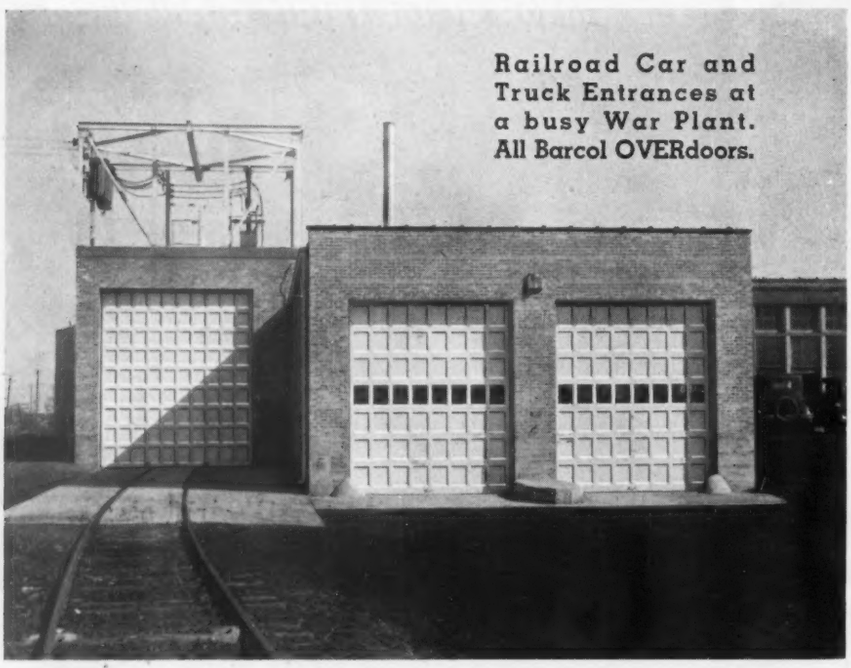
(Continued from page 104)

Superhighway, with its general level 6 ft. below standard street grade, which he stated was more ideal though more expensive to construct than elevated highways. Sound films showing highway improvements in different sections of the country were shown.

The Monthly Bulletin of the Illinois Society of Architects calls attention to the naming of Liberty ships after illustrious American architects by the U. S. Maritime Commission, then asks if it wasn't a Liberty ship whose hull, during the tryout, split in the middle due to unforeseen stresses and faulty welding.

The Tennessee Chapter A.I.A. held its annual meeting on April 1.

Officers were elected as follows: Harry B. Tour, president; Guy H. Parham, Jr., secretary-treasurer; W. P. Bealer, R. E. Hart, L. H. Bull, Lucian Dent, vice presidents.



The Barcol OVERDOOR

... a Better Door
...for War...and Postwar

This picture shows a recent installation at a moderate-sized plant making essential war products, where it became necessary to improve the freight-handling facilities. This plant has a simple conversion problem so, in installing these new doors, they were looking forward to benefits for peacetime as well as wartime production. The Barcol OVERdoor has proved its ability, in many important installations, to provide lasting, dependable service with minimum maintenance. This is due to construction and engineering features which are of outstanding value on large doors such as these. Be sure you have the data on Barcol OVERdoors and ELECTRIC DOOR OPERATORS... write us, or see your Barcol representative.

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At the March meeting of the Chicago Chapter A.I.A., Dr. Siegfried Giedion spoke on "The Changing Aspect of Comfort," dealing with furniture and the comforts of sitting.

Dr. Giedion is now preparing a book on the impact of mechanization on private life, to be published by the Oxford University Press.

C. W. Fairweather, F.A.I.A., Metuchen, N. J., in the April-May "Monthly Bulletin" of the Illinois Society of Architects:

He compares the present unconstitutional Illinois Professional Engineering Act with the New Jersey Assembly Bill 507 introduced in 1938, finding parts of the latter identical with the Illinois Act, and gives a lively version of what is architecturally known as the "Battle of Trenton." He says, handsomely, ". . . We realize that the Prairie State, which bears the proud distinction of having obtained the first architects' state registration law, needs no help from New Jersey—which was runner-up in the race to obtain such legislative protection for the building public—but we may perhaps be permitted to enjoy a modest chuckle at finding ourselves to have been an earlier near victim of as choice a piece of ambiguity as one might hope to find in any perusal of the law."

Gilbert Harold, staff representative for the Postwar Committee of the United States Savings & Loan League, stated that private funds are now and will continue to be in greater volume available for an unlimited postwar building program.

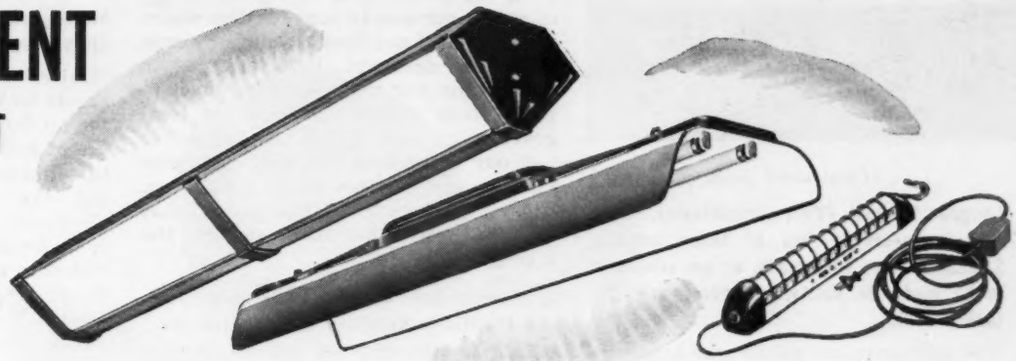
He has stated that the League, in seeking mortgage money placement, invariably preferred buildings that were designed *and supervised* by architects. He further stated that the League now has at its disposal a fund of over $2 billion for lending purposes and that this sum is growing by leaps and bounds; that the League has perfected a postwar mortgage plan not yet officially published; that the U.S.S.L. recognized the necessity of municipal, state, or federal public funds, or all three together, for urban slum clearance, since private capital can never carry on this work without serious losses to innocent individuals because of delinquent taxes, depreciated values; that housing should be left entirely to private initiative.

A committee on urban redevelopment of the California Housing and Planning Association, Inc., has prepared and published a city planning pamphlet.

A Chart for Changing Cities purports to be an easy-to-follow analysis of why cities deteriorate, with practical suggestions on what should and can be done to create better living conditions in large population centers, and how the job should be organized in terms of legal, physical, and educational requirements.

(Continued on page 110)

FLUORESCENT
AT ITS FINEST



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COMPLETE PACKAGES OF INDUSTRIAL LIGHT

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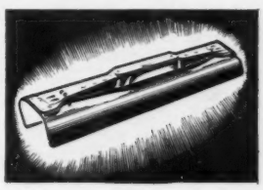

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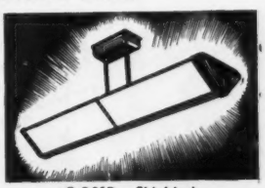
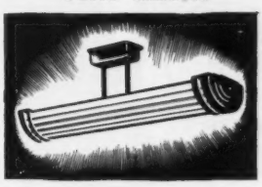


C-201R Shielded
C-200R Unshielded



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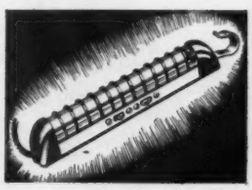

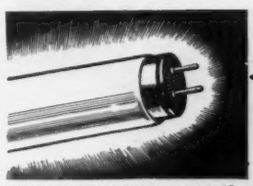

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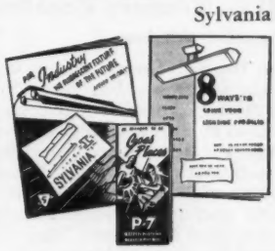

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News

(Continued from page 108)

Langdon W. Post, FPHA administrator, states that payments in lieu of taxes totalling $1,283,405 have been made, or are scheduled to be made, to California county and city taxing bodies.

The payments are public war housing's contribution toward meeting the costs of public services in communities where populations have been swollen by war production demands. Post stated: "As long as the war emergency continues to place these unusual burdens on local governments, we expect to continue to pay our share toward the costs of services required by the added population. This is a definite federal policy that can be expected to continue through the war period."

At a recent hearing on postwar policies before the House Buildings and Grounds Committee, the attitude of the National Association of Housing officials toward postwar housing objectives was stated by Executive Director Hugh R. Pomeroy as follows:

"Objective of a U. S. housing program should be provision of adequate housing for all families . . . should include best use of existing housing; replacement of sub-standard housing; additional housing for overcrowded families; replacement of obsolescence as it develops; housing for new families, estimated to average 480,000 a year; more housing for communities with net population increases caused by migration, and maintenance of enough vacancies to insure smooth functioning of the housing market." To provide adequate housing for all families within 15 years will, Pomeroy stated, require production of from 1,500,000 to 1,750,000 new dwelling units a year; also, that housing should not be regarded as a form of public works but functions and purposes should be considered together in dealing with total construction, employment, and the stabilization of the national economy.

He said the Association's observations of local housing authorities over the nation (some 365) lead to the conclusion that their administrative and management efficiency ranks high among local government agencies. Local authorities are borrowing more and more to finance public housing projects from normal investment sources, rather than from government, floating 35 to 40 year loans —a tribute to the financial soundness and integrity of local commissioners.

Shacktowns are growing at an alarming rate in unincorporated areas on the edges of California cities, reported Walter P. Koetitz, chief of the State Division of Immigration and Housing, to the California's Governor's Council.

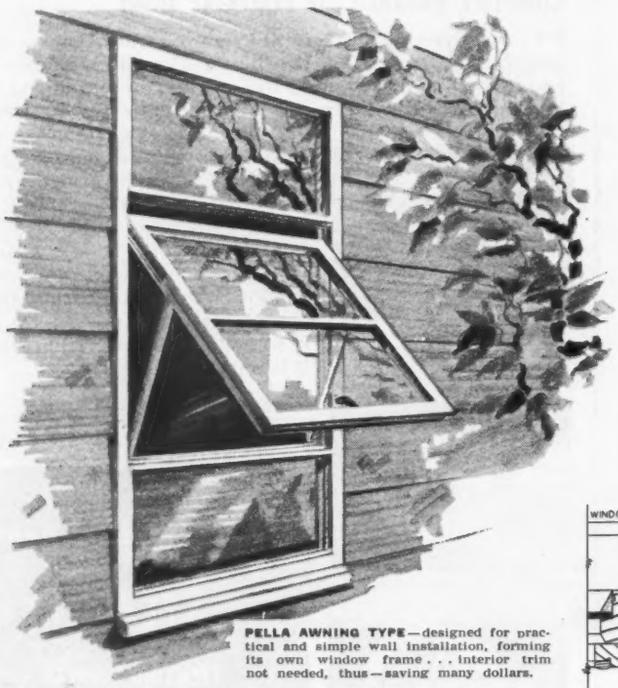
The report also states that the present State Housing Act does not extend to unincorporated areas, making it practically impossible to remedy or control bad developments; that because the federal housing program has not kept pace with the influx of war workers from outside California, thousands of families are forced to build some sort of habitations for themselves. Clean-up campaigns have started against the worst conditions in the South and in the San Francisco Bay area.

An NHA report states that more than 106,000 applications for housing accommodations were received by 153 War Housing Centers in February alone.

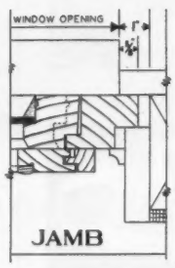
Approximately 87,000 of the applicants wanted family accommodations; of these more than 46,000 were war workers eligible for all types of war housing, and about 17,000 were members of the armed forces.

NHA also reports that the conversion program, started late in 1942, to provide additional war housing accommodation units in existing structures

(Continued on page 112)



PELLA AWNING TYPE—designed for practical and simple wall installation, forming its own window frame . . . interior trim not needed, thus—saving many dollars.



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IDEAL AND EASY TO ADAPT FOR SPECIAL JOBS LIKE THESE

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Fenestra's advertisement in the May 22nd issue of Newsweek will be the 12th in our continuous series to encourage postwar planning. Newsweek is read by thousands of businessmen, school and hospital officials, and government authorities—the men whose decision to start planning must precede the actual placing of work on your boards. We hope that it has helped to get plans started, so that when the boys come home, jobs will be ready.

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CONSERVATION FOR THE NATION

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News

(Continued from page 110)

through public financing, has realized a savings of 72% in metals and 76% in lumber for converted dormitories, and 56% in metals and 63% in lumber for family units.

FHA says that 85% of all privately financed war housing now being built under local quotas established by NHA is covered by FHA Title VI insurance.

John B. Blandford, Jr., FHA administrator, announced that total completions under the war housing program since the summer of 1940 were 1,513,439. Of this total, 1,306,774 are new units, 206,665 converted existing structures; that almost all publicly financed housing now being built is of temporary construction, whereas privately financed units are of permanent type and will continue in use after the war. NHA further reports a scheduled removal (mainly by trailer truck or river barge) of 3500 family dwellings and 1600 dormitory units, no longer needed at present locations, to other localities; and that many projects are to be utilized as hospitals, recuperative centers, nurses' homes, schools, barracks, for new or expanding military establishments.

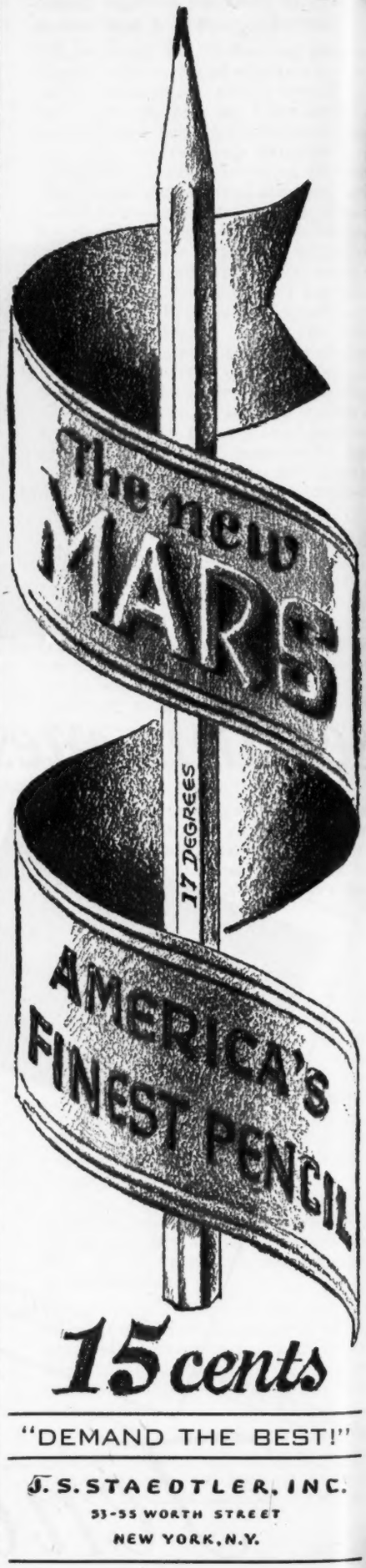
The Institute of Life Insurance reports that the total volume of city mortgages held by insurance companies has expanded to $7 million from a 1929 aggregate of $5 million.

Taking advantage of the improved wartime market, they have turned vast holdings, taken over in foreclosure during the depression years, back to individual and investment ownership. These sales of holdings consisted of private homes, apartment structures, and city business holdings. It is claimed that the rehabilitation of business properties was more complex than the residential and that complete rebuilding was often necessary, and that these have not been sold as rapidly as housing.

Private enterprise will and should have the larger part of the postwar housing job, including sponsorship by local housing authorities of low-rent and slum clearance, according to a statement by Herbert Emmerich, FPHA Commissioner.

Before a conference of the New England Regional Council of the National Association of Housing Officials, he suggested that local Housing Authority bonds thus acquired by private investors be guaranteed by the federal government as to principal and interest. He believes the extent of public housing is a matter to be determined solely within the community, and that the federal government should not plan for communities nor build low-rent housing. "We are exploring the possibility of

(Continued on page 114)



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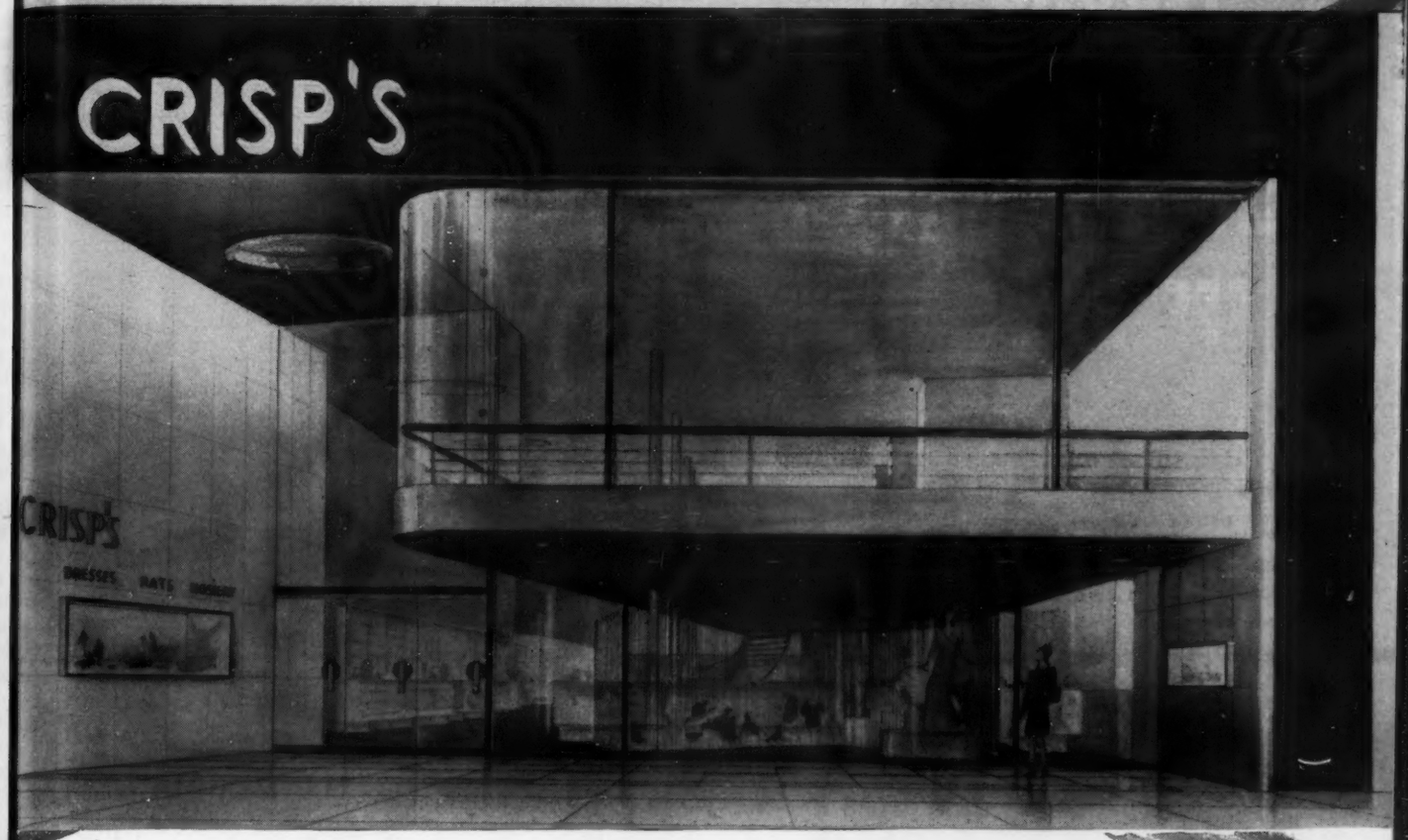
THERE IS A NEW TREND IN STORE DESIGN



ROBERT ALLAN JACOBS' conception of a department store

"One of the new trends in store design is the emphasis on three-dimensional window display. Through extensive use of plate glass, the store, rather than just the window, becomes a medium for advertising. The traditional window thus loses static quality and becomes alive with the activity of the store. A movable screen behind the window can, however, achieve the traditional effect if desired. This store is 45 feet wide with two spans, and 20 feet in height. The mezzanine was put to the front instead of the rear to: (1) create two display areas or store windows visible to pedestrian and bus traffic on both sides of the avenue, and (2) to minimize the sense of interior columns."

Ely Jacques Kahn · Robert Allan Jacobs, *Architects*

THE new trend toward "openness" in store design makes more essential than ever the use of high quality construction materials. Pittsburgh Glass and Store Front Metal consistently provide this necessary excellence. These products are versatile and adaptable. They comprise a complete line, providing a type of glass for every need, and giving the architect wide latitude in design. And they are readily available through a nation-wide system of branches and dealers.

Hundreds of thousands of merchants are being urged to consult architects by Pittsburgh Plate Glass Company. Advertisements running in 21 magazines suggest planning now for postwar building and alterations, with the help of architects.

"PITTSBURGH" stands for Quality Glass and Paint

FREE! **21 x 25-inch reproduction of architect's drawings,** showing interior perspective, plan, and several details of this design, as well as the exterior shown on this page. It is the second of a series of store designs by some of America's leading architects. Mail the coupon now.

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Data on actual installations, lighting tests, costs and maintenance experience are found in the booklet "Light from Floors." For your copy write to: Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

HOW ABOUT MAINTENANCE?

Experience shows white-cement floors are easy to clean, easy to keep clean, and retain their reflection advantage. Maintenance is simple—frequent sweeping, occasional damp mopping, periodic scrubbing.

PP-P-27

ATLAS WHITE CEMENT

For Light-Reflecting Floors

News

(Continued from page 112)

liberalizing payments in lieu of taxes and hope soon to find a solution that will be fair to the cities and at the same time permit maintenance of low rents," he said.

State legislation to encourage wider investment in apartment houses is being urged by the postwar committee of the Producers' Council.

Chairman Russell G. Creviston holds that such legislation would stimulate construction of a large volume of well-planned and well-built properties in the better type of communities, would lessen the speculative factor in realty operations.

EXHIBITIONS

Museum of Modern Art, N. Y.

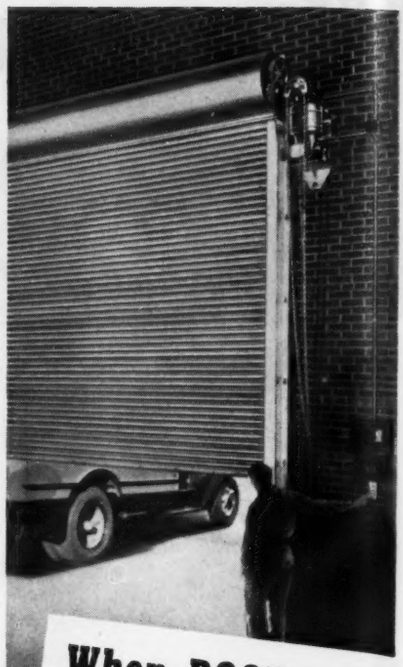
On May 24th, the Museum of Modern Art in New York will celebrate its 15th anniversary by presenting *Art In Progress*, its largest exhibition of painting and sculpture, architecture, industrial art, photography, dance and theater design, and motion pictures. The Museum hopes the exhibition will provide an opportunity for measuring the possible contribution of the designer to the postwar period, and will show that enforced conversion of material and labor has led to the elimination of superfluous elements—and has therefore been a healthy influence esthetically as well as economically. The Industrial Design Section of the exhibition will show one of the latest developments brought about by the war—an inflated chair made of a flexible plastic reputed to be stronger than rubber.

A 12-panel exhibit entitled *Look At Your Neighborhood* (designed by Rudolf Mock, architect, with the advice of Clarence Stein), depicting the inadequacy of haphazard building in our present towns and cities and the need for comprehensive planning to make the postwar world a better living place, is being shown (until May 28) at the Museum of Modern Art. To make the exhibition available all over the country, the Museum has had the 12 panels reproduced in full size by photogravure and silk screen process, and 200 sets are now for rent or for sale.

Cooper Union, N. Y.

A collection of books published between 1805 and 1899 from the Museum library, and reflecting the development of architectural taste in the United States during the 19th Century is on exhibition at Cooper Union Museum in New York until June 15th. The earliest work shown is Owen Biddle's "The Young Carpenter's Assistant, or A System of Architecture Adapted to the Style of Building in the United States."

(Continued on page 116)



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- Motor operation saves time and labor, permits remote control if desired.
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- They open vertically. Ice, snow, stored materials can't hinder operation.
- They resist intrusion, fire, weather and damage with a "curtain of steel."

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Note how *completely* these Kinnear features cover the most frequently encountered door requirements. Coiling-upward action permits full utilization of all surrounding space. Machinery and equipment may be placed right up to the door-jambs; materials may be stored within an inch or two of the curtain, inside or out; all space above the lintel is left clear for conveyors, ductwork, etc. Many installations still operating smoothly after forty years of service are convincing proof that Kinnear Rolling Doors are built to last. And because of their straight-line simplicity of design architects find they harmonize well with any building style. Write *now* for full details. The Kinnear Mfg. Co., 1900-20 Fields Ave., Columbus 16, Ohio.

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A System of Architectural Ornament—*Louis H. Sullivan*	15.00
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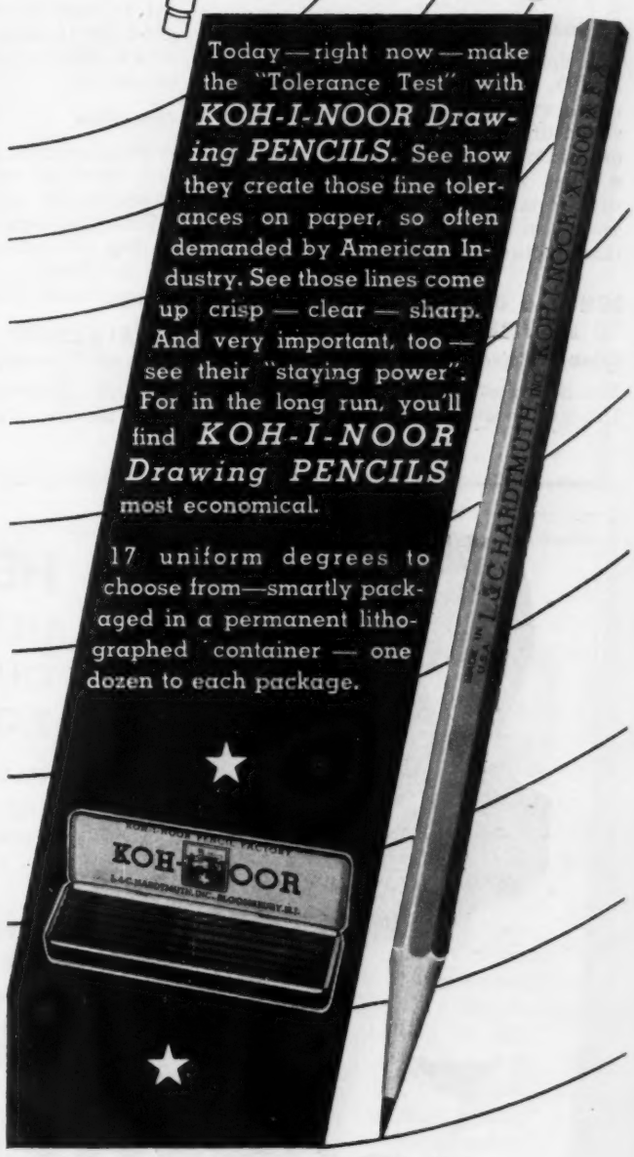

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News

(Continued from page 114)

The annual exhibition of Cooper Union students' work will be held on May 24, 25, and 26, from 10 a.m. to 11 p.m.

Octagon House, Washington, D. C.

A photographic exhibition of modern Dutch architecture and city planning supplied by the Netherlands Information Bureau will be held in Washington, D. C., starting the second week in May, at Octagon House, national headquarters of the A.I.A.

Smithsonian Institute, D. C.

The Smithsonian Institution, Washington, D. C., has installed a plastics and resins exhibit prepared by Plaskon Division of Libbey-Owens-Ford Glass Co. of Toledo. Its purpose is to give visitors a quick and complete picture of how urea-formaldehyde plastics and resin glues are compounded and used in the manufacture of a variety of products.

SCHOOLS OPEN FACILITIES TO SERVICE MEN

Columbia University

The School of Engineering at Columbia University is opening its spring session courses free of charge to qualified men and women engineering students who have been discharged from the armed forces, in the hope of aiding them over the critical period of waiting until federal funds are provided for them to continue. Dr. Nicholas Murray Butler, president, believes this step is important because completion of the education of those with outstanding scientific and technical ability will be essential in carrying on American war production if the war is prolonged. The measure is now a temporary one confined to the current spring term ending June 24th, and the University reserves the right to limit the number of students admitted to each course and to refuse the privilege of attendance to any applicant who is able to carry the full cost of his education.

Penn State

A plan designed to assist returning service men in resuming their pre-war education or career by permitting enrollment at regular four-week intervals during the college year, is announced by the School of Engineering at the Pennsylvania State College.

SCHOLARSHIPS AVAILABLE

Syracuse University

Syracuse University's Department of Architecture offers one $400 and four $200 scholarships to be granted July 15th by competition in two fields—drawing and preparatory school record. Each contestant must be accepted without condition as a regular student; high school records, particularly in mathematics, of all contestants will be carefully examined. A portfolio of 20 examples of work in free-hand and mechanical drawing, together with three letters of recommendation must be sent to the College of Fine Arts not later than July 6th. Architecture scholarships may be held for 5 years provided the student maintains a C plus (80%) average each year. Application for regular admission should be addressed on or before June 25th to Dr. F. N. Bryant, Director of Admissions, Administration Bldg., Syracuse, N. Y., and correspondence regarding competitions to Dean H. L. Butler, College of Fine Arts, Syracuse, N. Y.

University of Pennsylvania

For the 1944-45 Fall and Spring terms, the School of Fine Arts, University of Pennsylvania, is offering two Theophilus Parsons Chandler Fellowships in Architecture, providing $1000 each, established to provide graduate study with a major in Design for graduates of approved architectural schools who have shown outstanding capacity and

(Continued on page 118)

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HERE'S JUST THE THING FOR OUR NEW HOME...
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Healthful circulation of fresh air... gas-heated in winter; cooling, refreshing in summer... *controlled by zones or individual rooms.* ★ Architects, Builders: Investigate before you specify! (Available after we complete our war production job.)

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BACK THE ATTACK
BUY WAR BONDS

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SAMSON SPOT
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the most durable material for hanging windows

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WHERE THE NEED IS GREATEST
Samson Braided Cords Serve Best
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"PENCIL BROADSIDES"

Twenty-four brilliantly drawn plates by the author, magnificently reproduced by gravure on one side only of heavy antique stock. Twelve clear, concise, and detailed lessons in text explaining the broad stroke pencil technique and its application to the expression of architectural and landscape forms and textures commonly encountered. A mighty meaty package for the aspiring pencil delineator or even for the artist of advanced proficiency.

The student of the pencil will find this book with its well arranged lessons a great aid to his progress. These lessons cover fundamental strokes; the indication of rough and smooth stonework; brickwork at large and small scale; various wood textures; structure and foliage of pine trees, oak trees, birch trees, and elm trees; the indication of roof textures; evergreen shrubbery and flowers at large and small scale. A single lesson offers pointers on composition. Each lesson consists of brief yet adequate text, together with one or more illustrations. The latter are not only expertly done in Kautzky's inimitable manner, but they are reproduced by a gravure process on a paper of much the quality of that employed for the original drawings, with the result that the reproductions are practically indistinguishable from the originals. Lovers of pencil work will want this book for these reproductions.

24 Plates, 9x12 inches, handsomely bound $2.00

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News

(Continued from page 116)

promise, and lead to the degree of Master of Architecture. Also offered is the $250 Albert Kahn Scholarship in Industrial Architecture for an undergraduate student who has completed 4 years of a 5-year course or who is a graduate of a 4-year course in Architecture and will lead to the Bachelor's degree. Applications should be addressed in letter form to the Dean, not later than June 15th, accompanied by three letters of recommendation and other credentials.

The School of Fine Arts, University of Pennsylvania, announces that the Joseph V. Horn Fellowship in Architecture providing $1,000 will be available for the Fall and Spring terms of 1944-45 for graduate students in Architecture.

AWARDS

Guggenheim Fellowships

The John Simon Guggenheim Memorial Foundation has announced appropriation of $200,000 for fellowships exclusively for men and women in the armed and other governmental services, to be available when they receive their service discharge.

Mrs. Cloethiel Woodard Smith, instructor in the School of Architecture, University of San Andres, La Paz, Bolivia, was awarded one of the 1944-45 regular fellowships. Formerly Chief of the Architectural Planning and Research Section of the FHA, she is now to study South American regional and city planning.

Columbia University

The 12th annual Hamlin Prize in social architecture was awarded to 19-year-old Elena Davila of San Juan, Puerto Rico, senior at Columbia University's School of Architecture, for her design for a shelter in a recreation area.

SCHOOL FACULTIES

Bannister to Alabama Poly

Turpin C. Bannister, professor of architecture at Rensselaer Polytechnic Institute, has been appointed head of the School of Architecture and Allied Arts at Alabama Polytechnic Institute at Auburn, Alabama, starting Oct. 1. Professor Bannister is at present preparing a history of iron architecture, a project sponsored by the A.I.A., the American Iron and Steel Institute, and Rensselaer Polytechnic Institute.

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